NEW MEXICO LEGISLATURE

RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE

2017 INTERIM FINAL REPORT

Legislative Council Service
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INTERIM SUMMARY

Radioactive and Hazardous Materials Committee
2017 Interim Summary

The Radioactive and Hazardous Materials Committee (RHMC) met five times during the 2017 interim. Two meetings were held in Santa Fe and one each in Carlsbad, Nenahnezad and Los Alamos.

At the start of the interim, the RHMC received a report from the secretary of environment that provided a broad overview of the Department of Environment's (NMED's) high-priority issues, including the Corrective Action Fund, the Gold King Mine spill, Los Alamos National Laboratory (LANL), the Waste Isolation Pilot Plant (WIPP), Superfund sites and ground water contamination.

At several meetings thereafter, the RHMC heard status reports on the progress and effectiveness of remediation actions at sites contaminated by radioactive or hazardous materials. Specifically, the committee heard updates on the chromium plume cleanup at LANL and held two meetings that addressed that issue. The RHMC received testimony from scientists and other representatives of the NMED, the United States Department of Energy (DOE), LANL and Los Alamos National Security and heard from community members regarding their concerns on the migration of the plume.

The United States Air Force gave a presentation on the status of the Kirtland Air Force Base fuel spill and the disposal of military legacy waste. At a joint meeting with the Indian Affairs Committee, the RHMC heard in-depth testimony from scientists, the NMED and the federal Environmental Protection Agency on testing and cleanup efforts undertaken to address the Gold King Mine spill and the legacy of uranium mining. The RHMC additionally received testimony from individuals and communities that are directly affected by these issues.

The RHMC heard from the DOE and LANL on the resumption of the shipment of transuranic waste to WIPP and explored opportunities and concerns associated with transporting and storing spent fuel in New Mexico on an interim basis.

At its final meeting, the RHMC hosted a panel discussion on the state of methane capture and venting and flaring that included testimony from the Energy, Minerals and Natural Resources Department and the perspectives of the oil and gas industry and social and environmental advocates.

WORK PLAN AND MEETING SCHEDULE

2017 APPROVED
WORK PLAN AND MEETING SCHEDULE
for the
RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE

Members

Sen. Jeff Steinborn, Chair
Rep. Carl Trujillo, Vice Chair
Rep. Cathrynn N. Brown
Sen. Carlos R. Cisneros
Rep. David M. Gallegos
Sen. Ron Griggs
Sen. Gay G. Kernan
Sen. Carroll H. Leavell
Sen. Richard C. Martinez
Rep. Angelica Rubio
Rep. Debra M. Sariñana
Rep. Larry R. Scott

Advisory Members

Sen. Gregory A. Baca
Sen. William F. Burt
Rep. Stephanie Garcia Richard
Sen. William H. Payne
Rep. Jane E. Powdrell-Culbert
Sen. Nancy Rodriguez
Rep. Nick L. Salazar
Sen. Clemente Sanchez
Rep. James E. Smith
Rep. Jim R. Trujillo

Work Plan

The Radioactive and Hazardous Materials Committee was created in 1979 pursuant to the provisions of the Radioactive and Hazardous Materials Act. During the 2017 interim, pursuant to Section 74-4A-11 NMSA 1978, the committee proposes to review the following topics:

1. Waste Isolation Pilot Plant (WIPP) operations and management;

2. Department of Environment programs and operations;

3. Los Alamos National Laboratory operations, including progress on uranium legacy site and chromium cleanup, shipment of waste to WIPP and efforts to address safety concerns;

4. Kirtland Air Force Base fuel spill status and legacy military waste disposal;

5. Gold King Mine disaster status;

6. interim spent fuel storage (Eddy-Lea Energy Alliance);

7. uranium mining and cleanup efforts;

8. Sandia National Laboratories' research on lignin;

9. dry cleaning chemicals and ground water contamination;

10. heavy metals detection and monitoring;

11. transforming New Mexico's energy resource future;

12. brackish ground water concerns and actions to address those concerns; and

13. a status report from URENCO.

Radioactive and Hazardous Materials Committee
2017 Approved Meeting Schedule

Date	Location
June 26	Santa Fe
July 28	Carlsbad
August 22	Nenahnezad (joint meeting with the Indian Affairs Committee)
September 21	Los Alamos
November 3	Santa Fe

AGENDAS AND MINUTES

TENTATIVE AGENDA
for the
FIRST MEETING
of the
RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE

June 26, 2017
State Capitol, Room 311
Santa Fe

Monday, June 26

9:30 a.m.		**Call to Order and Introductions** —Senator Jeff Steinborn, Chair
9:45 a.m.	(1)	**Department of Environment (NMED) Update** —Butch Tongate, Secretary, NMED
11:30 a.m.	(2)	**2017 Interim Work Plan and Meeting Schedule**
12:00 noon		**Adjourn**

MINUTES
of the
FIRST MEETING
of the
RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE

June 26, 2017
State Capitol, Room 311
Santa Fe

The first meeting of the Radioactive and Hazardous Materials Committee was called to order by Senator Jeff Steinborn, chair, on Monday, June 26, 2017, at 9:40 a.m. in Room 311 of the State Capitol.

Present
Sen. Jeff Steinborn, Chair
Rep. Carl Trujillo, Vice Chair
Sen. Ron Griggs
Sen. Richard C. Martinez
Rep. Angelica Rubio
Rep. Debra M. Sariñana
Rep. Larry R. Scott

Absent
Rep. Cathrynn N. Brown
Sen. Carlos R. Cisneros
Rep. David M. Gallegos
Sen. Gay G. Kernan
Sen. Carroll H. Leavell

Advisory Members
Rep. Jane E. Powdrell-Culbert
Sen. Nancy Rodriguez
Sen. Clemente Sanchez
Rep. James E. Smith

Sen. Gregory A. Baca
Sen. William F. Burt
Rep. Stephanie Garcia Richard
Sen. William H. Payne
Rep. Nick L. Salazar
Rep. Jim R. Trujillo

Staff
Shawna Casebier, Staff Attorney, Legislative Council Service (LCS)
Monica Ewing, Staff Attorney, LCS

Guests
The guest list is in the meeting file.

Handouts
Handouts and other written testimony are in the meeting file.

Monday, June 26

Call to Order and Introductions

Senator Steinborn welcomed members of the committee and guests to the meeting. Committee members and staff introduced themselves.

Department of Environment (NMED) Update

Secretary of Environment Butch Tongate introduced the following NMED representatives who attended the meeting: J.C. Borrego, deputy secretary; Donna Bahar; Dennis McQuillan; John Kieling; Kurt Vollbrecht; Annie Maxfield; Michelle Hunter; Bruce Yurdin; and Michaelene Kyrala.

Secretary Tongate described the department's organization and the several issues on which the department focuses its work, including hazardous material spills. He said that states are required to implement financial assurance measures pursuant to the federal Resource Conservation and Recovery Act of 1976, and the state's Corrective Action Fund (CAF), managed by the NMED, is how New Mexico meets that requirement. Under the CAF program, a $150 fee is charged to petroleum distributors at retail outlets, and $110 of that fee is deposited in the CAF to help defray the cost of spill and leak cleanup.

Regarding the department's budget, Secretary Tongate said that the NMED has experienced significant funding reductions over the past 10 years, during which time legislation was signed into law to allow 30% of money in the CAF to be used for salaries and operations expenses of the NMED each year. The fund generates approximately $19 million each year for department operations, and approximately $12 million from the fund is used for cleanup corrective actions. Several bills were introduced during the 2017 regular and special sessions that would have diverted income from the CAF for other purposes, which would have impaired remediation work, created threats to water wells and human health and caused layoffs among the approximately 150 department positions funded by the CAF. Finally, he noted that the fund's annual obligations dropped in fiscal years 2016 and 2017 primarily because of sweeps of many of the state's funds and remediation efforts were slowed as a result of those sweeps.

Discussing per capita CAF obligations throughout the state over the past 10 years, Secretary Tongate explained that smaller rural counties, and those with many instances of hazardous material leaks and small populations, have the highest per capita obligations. He added that areas of the state that have major roadways tend to have a greater number of gas stations and more hazardous material leaks.

Secretary Tongate explained that the cost of remediation varies, with the average project costing about $112,000, and an average of $500,000 if the project is complex and presents a threat to public health. He noted that there are 21 "Priority 1" cleanup sites in the state, which are sites at which released hazardous material poses an actual or potential imminent threat to human health. The remediation process is also time consuming and can take up to 15 years to

complete assessment and full remediation. Factors that influence the cost and duration of remediation work include the type of leaked material, the type of soil into which the material leaked, the depth of nearby ground water and how the leak is prioritized. Despite concerns about longer-term effects of petroleum leaks, Secretary Tongate showed the members examples of many sites that were successfully redeveloped following remediation.

The department has been very involved in the aftermath of the Gold King Mine (GKM) wastewater spill in 2015 near Silverton, Colorado. Secretary Tongate said that following the spill, the department has monitored plants and wildlife and tested samples of water and sediment in affected areas, and the test results have been fairly good. The department's analysis shows that the increased concentrations of minerals and metals released in the spill do not appear to have harmed livestock or crops. He noted that when turbidity in affected rivers increases, sediment is stirred up, which could have an effect on drinking water systems; however, there is no evidence that the spill impacted private wells located near those rivers. Sediment surveys in Colorado, New Mexico and the Navajo Nation show that concentrations of heavy metals in the affected rivers have reduced significantly.

Secretary Tongate reported that GKM stakeholder outreach efforts include the creation of a risk dashboard, a tool available on the NMED's website that helps community members quickly identify concerns related to the spill. Some residents in affected areas use the river as a source of drinking water, and while the department advises against that, the dashboard includes a category of information related to domestic use of river water, which could help residents make informed decisions.

Shortly after the GKM spill, the federal Environmental Protection Agency (EPA) provided residents in San Juan County with forms on which to indicate any economic impact the residents experienced as a result of the spill. Secretary Tongate said that many residents were disappointed to learn that losses reported on those forms will not be reimbursed despite the fact that an administrator with the EPA acknowledged responsibility for the spill in a hearing before the U.S. Congress. The federal government's sovereign immunity was cited as the reason for nonpayment of GKM spill claims. He added that Region 6 of the EPA has been very cooperative with the NMED's efforts following the spill.

Secretary Tongate said that several lawsuits were filed in connection with the GKM spill, including those filed by New Mexico and the Navajo Nation against the EPA. Defendants in those lawsuits have filed motions to dismiss the cases, and the parties are awaiting decisions on those motions. After efforts to collaborate with Colorado following the GKM spill were ineffective, New Mexico sought permission from the United States Supreme Court (USSC) to file claims against Colorado. While the United States solicitor general recommended that the USSC deny permission, Secretary Tongate said that the department is still awaiting a final decision.

Secretary Tongate reviewed the status of work to address the bulk fuel spill at Kirtland Air Force Base. The primary contaminant in that spill is ethylene dibromide. He said that Governor Susana Martinez made the issue a priority and the NMED has approached the United States Air Force to collaborate on addressing the spill. The department has placed monitoring wells in several places around the spill site to monitor how fast the contaminant plume is moving toward drinking water production wells. The monitoring wells are tested monthly, and thus far, test results show no evidence of the presence of the contaminant near drinking water sources.

Secretary Tongate described two other efforts being used to address the spill at Kirtland Air Force Base, including the in-situ bioremediation pilot test under development and the ground water treatment system. The ground water in the affected area is being extracted and treated, and 62.88 grams of ethylene dibromide have been removed from the hundreds of millions of gallons of water removed and treated so far. He noted that images of the plume show that the extraction and treatment of the water is helping to reduce the size of the plume.

Public outreach efforts around the Kirtland Air Force Base spill include quarterly public meetings attended by representatives of the United States Air Force, Bernalillo County, the NMED and other partners and neighborhood associations.

Secretary Tongate said that in 2014, an accidental chemical reaction occurred with a drum containing radioactive waste from Los Alamos National Laboratory (LANL), which caused a radiological release and the suspension of operation at the Waste Isolation Pilot Plant (WIPP). In response to the release, the NMED issued administrative and compliance orders that were ultimately settled with the WIPP in early 2016. That settlement agreement includes several environmental projects to be completed by LANL.

Secretary Tongate reported that over the past three years, WIPP has undertaken efforts to ensure a safe work environment. These efforts include inspections of the site and the implementation of new training and procedures. The NMED conducted an inspection of WIPP and determined that it had taken all necessary steps to allow it to resume operations following the radiological release.

WIPP has submitted a permit modification for the NMED's review. Two of WIPP's requested modifications are considered highest priority. These requested modifications concern changes to the panel closure design, which are necessary following structural damage related to the release of contaminants in 2014. An additional modification concerns WIPP's ability to store waste above ground before it is moved underground, which he said the NMED considers a lower priority.

Secretary Tongate referred to the LANL compliance order on consent, an agreement among the NMED, the federal Department of Energy (DOE) and the DOE's contractor at LANL, that addresses cleanup of legacy contamination at the Los Alamos site. He said that the

remaining legacy sites range in size from very small to several acres and cleanup at 300 of those sites has been completed. The order includes a schedule for cleanup of the remaining sites.

Secretary Tongate informed the committee of the NMED's proposal to make significant changes to the state's ground water regulations, which have not been revised for approximately 15 years, despite scientific advances during that time period. He said that among other changes, the proposed revisions will clarify language and add oversight of geothermal regulation. The department also proposes to make changes in how it addresses the contamination of buildings through vapors, particularly those used in laundries and dry cleaning facilities, referred to as vapor intrusion.

Secretary Tongate recalled ground water and soil contamination identified at the Burlington Northern and Santa Fe Railway Company fueling facility in Belen and said that some remediation work has been completed at the site and that work will continue.

At the site of the Laun-Dry Supply Company in Albuquerque, actions to identify the scope of and to abate ground water contamination have been taken. The NMED is working with the company to reduce ground water and soil vapor contamination.

Following Secretary Tongate's presentation, the members of the committee and representatives from the NMED discussed the following:

- the legislature's decision not to divert additional money from the CAF and the detrimental impact such a diversion would have on the NMED's ability to protect public safety through remediation work;
- the various phases of remediation projects and how contracts are awarded to perform work for each phase;
- the maximum allowable level of ethylene dibromide in drinking water, which is 50 parts per trillion;
- a study by the federal Centers for Disease Control and Prevention in the area of the Kirtland Air Force Base that identified hydrocarbon vapors in a fuel facility but did not identify the presence of contaminants in soil or drinking water wells;
- the depletion of ground water in the state and the potential for desalinization of brackish waters to supplement ground water supplies;
- a federal requirement implemented in 2008 that requires tanks used to store petroleum products to be double walled;
- the NMED's rule changes to align ground water standards with federally mandated drinking water standards, which provide more protection and will lower allowable levels of organic substances such as trichloroethylene and tetrachloroethylene;
- the NMED's working relationship and monthly meetings with the DOE;
- the geographic distribution and length of remediation for Priority 1 sites in the state;

- the $10,000 deductible required from an entity that experiences a leak or spill of contaminants and applications for waivers of that deductible, and whether additional sureties should be required from facilities;
- much of the suspended contaminants from the GKM spill have settled in Lake Powell, but Farmington continues to monitor for spikes in lead in its water;
- the designation of the GKM spill site as a Superfund site by the EPA;
- the deadline for filing lawsuits related to the GKM spill is in July 2017;
- sampling and monitoring following the GKM spill performed by the EPA, the State of Colorado, the Southern Ute Indian Tribe, the State of New Mexico, the Navajo Nation and the State of Utah; and
- the challenge of determining whether the presence of substances is attributable to an area's geography, the effects of mining or the GKM spill.

2017 Interim Work Plan and Meeting Schedule

Ms. Casebier reviewed the proposed work plan and meeting schedule, and the committee discussed additional topics and potential meeting locations for its July and September meetings. The committee decided to hold its July meeting in Carlsbad and its September meeting in Los Alamos. The committee also agreed to request a joint meeting with the Indian Affairs Committee on August 22, 2017 to discuss the GKM spill. The committee approved the work plan and meeting schedule as discussed, without objection.

Adjournment

There being no further business before the committee, the committee adjourned at 11:55 a.m.

Revised: July 26, 2017

TENTATIVE AGENDA
for the
SECOND MEETING
of the
RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE

July 28, 2017
Auditorium, Carlsbad Field Office
Skeen-Whitlock Building, 4021 National Parks Highway (Hwy. 62/180 - El Paso Highway)
Carlsbad

Friday, July 28

9:00 a.m.		**Call to Order, Introductions and Approval of Minutes** —Senator Jeff Steinborn, Chair
9:15 a.m.	(1)	**Welcome and Update on the Carlsbad Brine Well Remediation Advisory Authority** —Dale W. Janway, Mayor, City of Carlsbad
10:15 a.m.	(2)	**URENCO USA Status Report** —Dave Sexton, President and Chief Executive Officer, URENCO USA —Lisa Hardison, Manager of Communications and Public Relations, URENCO USA
11:15 a.m.	(3)	**Updates: Interim Storage — Eddy/Lea Energy Alliance and Carlsbad Nuclear Task Force Updates** —John Heaton, Chair, Carlsbad Nuclear Task Force
12:30 p.m.		**Working Lunch**
	(4)	**Waste Isolation Pilot Plant (WIPP) Status Report** —Jeff Carswell, Deputy Manager, Carlsbad Field Office, U.S. Department of Energy —Bruce Covert, President, Nuclear Waste Partnership, LLC
1:30 p.m.		**Public Comment**
1:45 p.m.		**Depart for Tour of WIPP*** *This is an invitation-only tour for legislative committee members and staff.
4:30 p.m.		**Adjourn**

MINUTES
of the
SECOND MEETING
of the
RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE

July 28, 2017
Auditorium, Carlsbad Field Office
Carlsbad

The second meeting of the Radioactive and Hazardous Materials Committee was called to order by Representative Carl Trujillo, vice chair, on Friday, July 28, 2017, at 9:05 a.m. at the Carlsbad Field Office Auditorium in Carlsbad.

Present
Sen. Jeff Steinborn, Chair
Rep. Carl Trujillo, Vice Chair
Rep. Cathrynn N. Brown
Sen. Carlos R. Cisneros
Sen. Ron Griggs
Sen. Gay G. Kernan
Sen. Carroll H. Leavell
Sen. Richard C. Martinez
Rep. Angelica Rubio
Rep. Debra M. Sariñana
Rep. Larry R. Scott

Absent
Rep. David M. Gallegos

Advisory Members
Sen. Gregory A. Baca
Rep. Jane E. Powdrell-Culbert
Sen. Nancy Rodriguez
Sen. William F. Burt
Rep. Stephanie Garcia Richard
Sen. William H. Payne
Rep. Nick L. Salazar
Sen. Clemente Sanchez
Rep. James E. Smith
Rep. Jim R. Trujillo

Guest Legislator
Rep. Dennis J. Roch

Staff
Monica Ewing, Staff Attorney, Legislative Council Service (LCS)
Nancy Martinez, Staff, LCS

Guests
The guest list is in the meeting file.

Handouts

Handouts and other written testimony are in the meeting file.

Friday, July 28

Representative Carl Trujillo welcomed members of the committee and the audience to the meeting, and the committee members introduced themselves. He noted that the day's agenda would be condensed to allow sufficient time for an underground tour of the Waste Isolation Pilot Plant (WIPP) facility at the conclusion of the meeting.

Welcome and Update on the Carlsbad Brine Well Remediation Advisory Authority

Mayor Dale W. Janway welcomed the committee to Carlsbad and discussed several issues of importance to the Carlsbad community. He highlighted needs related to infrastructure at WIPP, including wiring, fire suppression systems and improvements on the surface of the WIPP site, and said that the community will seek assistance from the federal government for infrastructure improvements.

Regarding the Carlsbad brine well remediation efforts, Mayor Janway said that Carlsbad is working with the Energy, Minerals and Natural Resources Department (EMNRD) and other state agencies to identify solutions. He said that the brine well remediation is a top priority for Carlsbad.

John Heaton, who serves as the mayor's designee on the Carlsbad Brine Well Remediation Advisory Authority (authority), explained that the authority provides advice and makes recommendations to the Oil Conservation Division of the EMNRD. Minutes and meeting agendas for the authority are available on the EMNRD website.

The brine well, Mr. Heaton said, would likely have collapsed if not for the support it receives from the Pecos River below; however, tilt meters show there is movement on the surface, above the mine. He said that financing the remediation of the mine using state special appropriations is difficult because that funding is recaptured at the end of a fiscal year, so some funding has been provided by local resolution. Regarding potential federal assistance, he noted that salt from WIPP is removed by truck on a route that crosses over the brine well sinkhole, so it is possible that assistance would be offered to secure the sinkhole and, consequently, the route.

Mr. Heaton showed the committee a series of images that demonstrate the stages of a sinkhole collapse and the size of the brine well sinkhole in Carlsbad relative to the size of the State Capitol. The sinkhole measures twice as deep as the Roundhouse is tall. He also showed the committee the size of the area that would potentially be affected if the brine well collapses and noted several transportation routes that would be impaired, including two major highways and a railway. Finally, he noted that the economic impact from the collapse of the brine well is likely to exceed $1 billion.

Mr. Heaton stated that three subcommittees have been formed to address various issues related to the brine well: the RFP/Liability Work Group, the Technical Work Group and the Finance Work Group. He briefly explained the missions of each work group and the roles each will play as solutions to the remediation effort are developed.

In response to a question from a committee member about emergency notification procedures, Mr. Heaton said that he understands that there has been communication with businesses and residents in the affected area about the potential collapse of the well. He said that emergency responders have been well-trained about how to respond if the well collapses. He added that it would cost approximately $6 million to $8 million to relocate the businesses and residents in the affected area. Another committee member stressed the importance of providing notice to the community when subcommittees meet to discuss the brine well.

A committee member asked about the projected date of the well's potential collapse. Mr. Heaton said that there is incremental movement around the well of 1/100 to 1/1,000 of an inch per day and that one projection indicates the collapse could happen as early as 2021.

A committee member noted that there is significant expertise in the staff at the state's universities and suggested that the expertise be employed in the remediation efforts.

URENCO Status Report

David Sexton, president and chief executive officer, URENCO USA, and Lisa Hardison, manager of communications and public relations, URENCO USA, presented a company update. After providing some background on URENCO's operations in New Mexico and explaining the nuclear fuel cycle, Mr. Sexton said that the company's site in New Mexico is currently fully operational. He explained that the nuclear fuel market can have an impact on the company's operations and talked briefly about nuclear energy supply and demand in the United States and worldwide.

Ms. Hardison described URENCO's contributions to the local community, with a focus on several programs that benefit school-age children. She highlighted the fact that the company encourages its employees to participate in science-related classroom activities that employ the scientific method. URENCO's goal is to show students the many kinds of careers they might pursue in the sciences.

Ms. Hardison noted that URENCO has donated furniture and office supplies to Habitat for Humanity and schools in the community. In addition, the company makes contributions through financial donations and volunteer work in the area.

A committee member thanked Mr. Sexton and Ms. Hardison for their presentations and suggested that the committee try to schedule a visit to the URENCO facility during the 2018 interim.

In response to a committee member's question about URENCO's customers, Mr. Sexton explained that the material his company enriches is not purchased or owned by the company but, rather, by the company's customers. He said that much of the material enriched in the United States is sourced in Canada. In response to another question, Mr. Sexton confirmed that, once enriched, uranium maintains its enrichment level because that isotope has a very long half-life.

A committee member asked about URENCO's business with China, and Mr. Sexton responded that, while the company has made some sales to China, that market has been challenging for URENCO. He said the company maintains its certification that allows it to make sales internationally.

Waste Isolation Pilot Plant Status Report

Jeff Carswell, deputy manager, Carlsbad Field Office, U.S. Department of Energy (DOE), and Bruce Covert, president, Nuclear Waste Partnership, LLC, delivered an abbreviated presentation to the committee in anticipation of the early afternoon tour of WIPP.

Mr. Carswell said that the footprint of the site is 16 square miles, and the facility is nearly in the center of that area. He showed the committee images of the WIPP site and the facility and noted that there are eight areas within the facility in which waste is stored and that those areas are referred to as panels. The eighth panel is currently under construction, and the other seven panels are currently in use.

Mr. Carswell described a map of the underground WIPP facility and noted that the facility is allowed to place 6.2 million cubic feet of waste in the site and that the facility is currently at approximately 50% capacity.

There are several entities that guide and oversee WIPP's operations, Mr. Carswell explained. They include: the U.S. Nuclear Regulatory Commission; the U.S. Environmental Protection Agency; the New Mexico Department of Environment; the U.S. Occupational Safety and Health Administration; the U.S. Mine Safety and Health Administration; U.S. Congress; the DOE; and the U.S. Department of Transportation (DOT). He noted that when a container of waste leaves a site, the DOT is responsible for the container until it reaches WIPP.

Mr. Carswell recalled the fire and thermal events in 2014 that caused WIPP to suspend its receipt and placement of waste pending efforts to analyze safety and restore and stabilize areas damaged by the fire. He said that following operations revisions and review by the DOE and New Mexico agencies, WIPP was authorized to resume receiving shipments of waste in April 2017. WIPP is currently receiving shipments from Texas, Idaho and the Savannah River Nuclear Laboratory. Mr. Carswell projected that panel seven will be filled within three to four years.

Following the presentation, and in response to a committee member's question, Mr. Carswell clarified that the material being received and stored at WIPP is anything that was used while nuclear weapons were being made, including clothing and other items. He said that with

an additional two to three panels, WIPP would have enough space to store transuranic waste from the entire country.

Several members of the committee gathered to depart for the WIPP tour.

Adjournment

There being no further business, the committee adjourned at 11:25 a.m.

Revised: August 17, 2017

TENTATIVE AGENDA
for the
THIRD MEETING
of the
RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE

August 22, 2017
Nenahnezad Chapter House
West Hwy. 64/County Road 6675/Navajo Route 365
Fruitland

Tuesday, August 22 — Joint Meeting with the Indian Affairs Committee

9:00 a.m. **Call to Order**
—Senator Jeff Steinborn, Chair, Radioactive and Hazardous Materials Committee
—Senator John Pinto, Co-Chair, Indian Affairs Committee

9:20 a.m. (1) **Welcome and Status Update**
—Norman C. Begaye, President, Nenahnezad Chapter (Invited)

10:00 a.m. (2) **Update on the Gold King Mine Spill**
—Dennis McQuillan, Chief Scientist, Department of Environment
—San Juan Citizens Alliance, Representative (Invited)
—Diné CARE, Representative (Invited)
—LoRenzo Bates, Speaker, Navajo Nation Council (Invited)
—Kevin Lombard, Superintendent, New Mexico State University (NMSU) Agricultural Science Center (ASC) at Farmington
—Bonnie Hopkins, Agriculture Extension Agent, NMSU ASC at Farmington (Invited)

12:30 p.m. **Working Lunch**

12:45 p.m. **Public Comment**

1:15 p.m. (3) **Uranium Mining and Legacy Mine Cleanup Efforts**
—Susan Gordon, Coordinator, Multicultural Alliance for a Safe Environment
—Jonathan Perry, Council Delegate, Navajo Nation Council
—Kurt Vollbrecht, Program Manager, Mining Environmental Compliance Section, Ground Water Quality Bureau, Department of Environment
—Steve Austin, Senior Hydrologist, Navajo Nation Environmental Protection Agency, Water Quality Program (Invited)
—Chris Villarreal, Environmental Protection Agency, Region 6
—Will Duncan, Environmental Protection Agency, Region 9

2:15 p.m. **Adjourn**

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

August 22, 2017
Nenahnezad Chapter House
Fruitland

The third meeting of the Radioactive and Hazardous Materials Committee (RHMC) was called to order by Senator Jeff Steinborn, chair, on August 22, 2017 at 9:21 a.m. at the Nenahnezad Chapter House in Fruitland.

Present
Sen. Jeff Steinborn, Chair
Sen. Carlos R. Cisneros
Sen. Richard C. Martinez
Rep. Angelica Rubio
Rep. Debra M. Sariñana

Absent
Rep. Carl Trujillo, Vice Chair
Rep. Cathrynn N. Brown
Rep. David M. Gallegos
Sen. Ron Griggs
Sen. Gay G. Kernan
Sen. Carroll H. Leavell
Rep. Larry R. Scott

Advisory Members
Sen. Gregory A. Baca
Rep. Stephanie Garcia Richard
Rep. Jane E. Powdrell-Culbert
Rep. James E. Smith

Sen. William F. Burt
Sen. William H. Payne
Sen. Nancy Rodriguez
Rep. Nick L. Salazar
Sen. Clemente Sanchez
Rep. Jim R. Trujillo

Staff
Shawna Casebier, Staff Attorney, Legislative Council Service (LCS)
Peter Kovnat, Staff Attorney, LCS
Nancy Martinez, Staff, LCS
Diego Jimenez, Research Assistant, LCS
Maria Alaena Romero, Intern, LCS

Guests

The guest list is in the meeting file.

Handouts

Handouts and other written testimony are in the meeting file.

Tuesday, August 22 — Nenahnezad Chapter House

Senator Steinborn welcomed guests and members of the RHMC and the Indian Affairs Committee (IAC). Committee members, staff and audience members introduced themselves. Senator Steinborn said that he and Representative D. Wonda Johnson, IAC, would chair the meeting, as the meeting was being held as a joint meeting of the RHMC and the IAC. Representative Johnson then introduced Norman C. Begaye, president, Nenahnezad Chapter, and invited him to address the committees.

Welcome and Status Update

President Begaye welcomed the committees to Nenahnezad and explained that, in English, Nenahnezad means "steep hill". He said that the chapter has 4,700 members, 1,500 of whom are voters, and stated that Arizona Public Service Company (APS) and the Navajo Transitional Energy Company are major industries locally. He noted that APS and Public Service Company of New Mexico do a good job for the community by providing scholarships and community funds for Nenahnezad's children. He said that the chapter is focused on getting young people to go to school and get degrees. A couple of weeks earlier, the chapter provided 60 scholarships to students, he said, and such programs are having a positive effect on the community.

Regarding the Gold King Mine (GKM) spill, President Begaye said that some farmers were not going to harvest the year of the spill but that the chapter left the decision to irrigate their fields to the farmers. The chapter held a meeting and advised that it was up to the community as to what to do with the waters that were impacted by the spill; two weeks later, the water was turned back on and farmers resumed irrigating. President Begaye shared that the upcoming Nenahnezad Harvest Festival is in its third year and that, this year, the inaugural Nenahnezad 10-kilometer run up the hill will take place the day after the festival.

In closing, President Begaye noted that the chapter has been receiving many compliments on its facilities from the surrounding community. The chapter house is used as a polling place for county voters, and the chapter is working to ensure that the facilities are accessible.

Update on the GKM Spill

Dennis McQuillan, chief scientist, Department of Environment (NMED), opened his presentation by noting that the two-year anniversary of the GKM spill had just passed and that knowledge gained in the process of testing and monitoring the GKM situation is being incorporated into an Animas River watershed scale plan. He said that the Animas River watershed system runs from the GKM to Aztec and that it involves a very complicated interaction of surface water and ground water, rich biodiversity, agriculture, various contamination sources and a wide range of nutrients.

Reviewing his presentation, "Gold King Mine Spill New Mexico Long-Term Impact Team Progress Report", Mr. McQuillan commented on the ongoing monitoring and findings

from the spill, as follows. Multiple governmental and nongovernmental agencies, including the Navajo Nation and the University of Arizona, have teamed up and are engaged in ongoing monitoring. Thirty days after the GKM spill, the river water met irrigation standards, and metals found in crop tissue surveys have been very low. The team is looking at how the river recharges ground water, but no impacts to wells have been observed. There is, however, concern about lead-contaminated aquifer sediment and whether this lead poses a danger to the root zone. This concern will continue to be monitored, but, because lead does not travel very far, there is hope that it will not be a problem. By all indications, the metals from the GKM spill washed out of New Mexico into Lake Powell during the spring runoff of 2016.

Mr. McQuillan advised that New Mexico has adopted water quality standards and that the New Mexico Bureau of Geology and Mineral Resources is measuring water levels in the aquifer to better understand the direction of ground water flows. River sondes have been installed to monitor the flow rate and turbidity, among other data points, and samples are taken from the sonde locations to test for metals and general chemistry. He noted that the relationship between turbidity and heavy metals in the river is of keen interest. Solids analysis has also been conducted, but more funds from the United States Environmental Protection Agency (EPA) are needed to continue the work. New Mexico is also generating data through an X-ray fluorescence survey in which the X-rayed sediment samples indicate the presence of metals; this process saves taxpayers money by not requiring lab testing.

As to monitoring results thus far, Mr. McQuillan advised that the water is safe but that the stigma of the water being unsafe needs to be addressed and people need to know that their crops are safe. When there are high flow conditions, the monitoring is detecting metals, in particular lead, in the water; however, many of these metals are attributed to legacy mining and GKM hotspots. The presence of lead is a concern for public water systems, and it is imperative to ensure that drinking water meets the standards for lead. Mr. McQuillan noted that warning systems are needed to inform the community when turbidity reaches a certain level, raising the incidence of lead contamination in the water. He also highlighted that education is needed to dissuade people from drinking any untreated river water.

In sum, Mr. McQuillan said that, although there is an ongoing stigma around the river water, there are no scientific data indicating that there has been a buildup of metals in crops, including corn and alfalfa, or in livestock. He noted that after the 2017 season, New Mexico will have very good data from the Animas and San Juan rivers to convince the public that recreation, crops, fishing and livestock are safe.

In response to an inquiry as to whether the river will ever come back to "normal", Mr. McQuillan noted that what was normal before the spill most likely had some level of contamination from the mining of the 1800s and from other catastrophic spills. However, after the Superfund process, there is hope that the river will have better water quality than before the spill. New Mexico will continue to monitor the river on an ongoing basis, and there is great optimism for a watershed scale monitoring plan with Colorado, Utah and the Navajo Nation.

Regarding funding, Mr. McQuillan said that $8 million was appropriated to the NMED for the monitoring program from the General Fund, and that some of the universities have research grants. A member noted that for the funding that comes from the legislature, the importance of the work being done needs to be recognized in order to prevent the funding from being on the chopping block in the state budgetary process. Members remarked that it is important to understand the relationship between the various groups involved in the monitoring.

In response to a question about the testing of fish tissue, Mr. McQuillan said that he feels that good data have been obtained and that nothing of concern has been seen in fish tissue. He noted that mercury is not a big component of the river contaminants, though the University of Arizona is testing livestock blood and will be sharing the results with New Mexico.

A member raised a concern about New Mexico not being recognized as a stakeholder in the Superfund designation by the EPA, although New Mexico is an affected area. Mr. McQuillan said that New Mexico is a participant in the federal Water Infrastructure Improvements for the Nation Act and is on equal footing with the other impacted states. EPA Region 9 is currently investigating proposals and will select a remedy. Responding to an inquiry regarding cooperation between the impacted states, he noted that Colorado is part of the working group, but Colorado is not experiencing the same impacts to agriculture that New Mexico is experiencing. Discussions are being facilitated with other states and tribes to create a watershed scale monitoring plan. The states and tribes can apply for grant money for this process, in addition to federal Clean Water Act of 1977 funding and other EPA funding.

Responding to a concern about the GKM still discharging, Mr. McQuillan noted that the mine is being cleaned but that the Bonita Peak Mine is still discharging. That mine has not yet been closed. A bulkhead has been installed, and hydraulic drilling is being done, but the EPA is being very cautious in light of the GKM spill.

Asked if GKM hotspots are still of concern, Mr. McQuillan said yes; hotspots are expected. If the water exceeds the EPA's standard for lead, remediation will be required. He noted that there has been a decline in fish populations in Colorado, but in New Mexico, the fish populations do not seem to be affected by the spill and remain at pre-spill levels. The data suggest that there is no need for concern, but monitoring is ongoing.

Regarding a question about the sondes, Mr. McQuillan said that state and federal grant money was used to install four sondes, one in Colorado and one each in Aztec, San Juan/Farmington and Shiprock in New Mexico. He said that the NMED wants to install a second sonde in Aztec and has asked the EPA to pay for it, although it is questionable whether it will be funded through the EPA. Clean Water Act of 1977 funding may be a possibility. The committees agreed that it would be of benefit for the committees to encourage the EPA to provide greater funding.

Janene Yazzie, a watershed planner for the Little Colorado River Watershed Chapters Association, addressed the committees on behalf of Diné CARE (Citizens Against Ruining our Environment) with prepared remarks. Ms. Yazzie informed the committees that, in accord with their creation stories, the Diné people have been living on the banks of the San Juan River since time immemorial and that the river not only provides water for irrigation and subsistence, but also for ceremonial purposes. She described meetings facilitated by a collective of community organizers known as Tó Bei Nihi Dziil, Our Water is Our Strength, that is providing a forum for community members to discuss how they have been impacted by the GKM spill. From these meetings and surveys, it was discovered that the top perceived risks from the spill are related to environmental, cultural, spiritual, psychological and financial issues as well as increased distrust of federal and state entities, increased historical trauma and loss of subsistence. Ms. Yazzie emphasized the need to create a community response that explores solutions that strengthen the mental, emotional, spiritual and ancient connections of the community to the sacred water system of the San Juan River.

Ms. Yazzie said that the GKM spill brought to the forefront the shared investment and dependency that the indigenous communities and state have on the river, such as the interest in preventing ongoing leakages at unreclaimed mine sites that drain into the Animas River, the increased risk of toxic exposure during high flood events and the need for long-term monitoring and remeditation. Referring to the International Indian Treaty Council's report to the United Nations Committee on the Elimination of Racial Discrimination of August 19, 2015, Ms. Yazzie addressed the importance of state collaboration on issues impacting indigenous people, including violations of indigenous rights by permitting toxic mining waste to be stored on the riverbanks, failing to provide timely and adequate information to the community and by violating rights to subsistence and food, cultural rights linked to traditional practices and the rights of the community to health, property and effective and adequate redress. Specific actions to be taken by the United States government, including the EPA, were also discussed.

In closing, Ms. Yazzie noted that, although the relationship between the State of New Mexico and the Navajo Nation is better and more beneficial than the relationships between the Navajo Nation and federal entities, there is room for improvement, particularly in how the state communicates with impacted communities. She stressed that the reporting needs to be consistent, regular and in the Diné language. She said that this is being accomplished through teach-ins attended by the NMED, and that better coordination and partnerships should continue to be developed throughout the research into the impacts from the GKM spill now and into the future.

Dr. Karletta Chief, assistant professor of hydrology at the University of Arizona, spoke of research that she has conducted on the GKM spill and noted that the results have been the same as those found by New Mexico. She said that 300 soil and sediment samples from irrigation ditches and 300 water samples, including river, well and irrigation waters, have been tested and that the levels of arsenic and lead are very low and do meet agricultural standards. She noted that the levels of manganese are higher but that they still meet the agricultural standards. Dr. Chief

said that biological samples of urine have been tested for arsenic and lead, in addition to testing water and soils around homes. Individual results will be determined in the following week and then disseminated to the community.

Dr. Chief said that surveys indicate a significant reduction in the use of river water and in use of the river generally. Teach-ins are working to disseminate information and stimulate a dialogue with the community about what it needs in the future. She emphasized that people use the river for more than just agriculture, including for spiritual purposes. Mental health in the community is a big concern because the river is considered a deity and, with the spill, the deity has been desecrated. Dr. Chief said that it is important to help people to heal from the spill and be more resilient in the future. She stated that the community often feels that it has not been receiving information or has not been included in the dialogue. She said that it is critical for information to be given in the Navajo language, and doing teach-ins on at least a monthly basis is helping to achieve some of the community outreach goals.

Questions arose as to how the Navajo Nation interfaces with other governmental and research entities. Dr. Chief said that the EPA has not actively collaborated in her research, although she has worked well with the Navajo EPA. Mr. McQuillan said that the NMED does have a tribal liaison and that it has an excellent relationship with the Navajo Nation.

A legislator said that it is a serious concern that there was no official warning from the State of Colorado or the EPA to New Mexico regarding the spill, but, rather, a county commissioner in Colorado who had a friend in San Juan County informed the friend of the spill. Mr. McQuillan said that Southern Ute colleagues also informed the NMED and San Juan County, but that there was little information exchanged among the EPA regions. He noted that the EPA is putting together a new plan to improve communications and that an emergency preparedness plan will be renewed this year. Ms. Yazzie added that an urgent action report was drafted to draw attention to the lack of communication with Native American stakeholders.

Emphasizing that an event like the GKM spill puts spirituality and livelihoods in danger, a member suggested that the state needs to look at other places in the state where contamination could create similar impacts and use the GKM spill as a learning experience.

In response to a question regarding turbidity and an increase in metal content, Mr. McQuillan explained that the monsoons stir up sediment, but that the metal content goes up and down very quickly. During spring runoff, however, the pattern is a little different because the water flow comes in a surge, and the flow stays high even as turbidity drops. During these times, the metal content in water will exceed drinking water standards but not irrigation standards. Ms. Yazzie said that the community already knows that during high flows, the water will be contaminated, and the community perceives the risk. Dr. Chief concurred with the results of the NMED that metals do increase during surges. She said that there is an attempt to provide the community with notifications that when turbidity is higher, people should not use river water.

A member noted that yellow river water is a result of the legacy mining of the 1800s — not just from water coming out of mines but from the tailings that sit on the sides of the mines — and asked if there has been any redoubling of efforts to identify problem spots along the Animas and La Plata rivers. Mr. McQuillan said that Colorado's EPA will address this issue during the Superfund process and control the source of the contamination.

In response to a question about the total costs of the spill, Mr. McQuillan said that New Mexico sued the EPA for $130 million, which is the cost of monitoring and of damages projected into the future. Duane "Chili" Yazzie, president of the Shiprock Chapter, said that the Navajo Nation also brought a $130 million claim against the EPA, which was summarily rejected. President Yazzie added that there had not been much communication with the EPA or others about the toxicity in the river prior to the GKM spill and that it took the GKM disaster to raise awareness of the issue. He said that toxicity knows no boundaries and that communities need to present a united front and share the same vision for protecting these resources.

Water quality concerns were discussed, and Dr. Chief stated that, prior to the farmers raising concerns, no studies had been done. Now, studies have been completed around Upper Fruitland and Shiprock, but there is no funding for future monitoring. The studies have revealed low levels of arsenic and lead adjacent to those communities and in irrigation waters. Manganese is an emerging contaminant. It is below the agricultural standard, but it is unclear where the manganese is coming from. The Navajo Nation recently set its own standards. Data on surges obtained from the NMED's sondes are being communicated to the communities; however, President Yazzie said that because many of the farmers are elderly and more traditional, they have a hard time comprehending the text of the information and that there is a need to translate the data into something more user-friendly.

Noting that New Mexico has returned unused funds to the United States Department of Agriculture (USDA), a member inquired if there is a role for the USDA to play in the response to the GKM spill. President Yazzie remarked that the USDA has not been active or engaged but that it is an avenue worthy of follow-up. Speaking as a local farmer who was impacted, President Yazzie said that the local communities are not always in sync with the central Navajo government. With the Navajo Nation having filed a lawsuit against the EPA, many local farmers are in limbo and have taken it upon themselves to write to EPA Administrator Scott Pruitt urging him to allow claims on the local level and not just from the Navajo Nation. President Yazzie requested the formal support of the committees for the Shiprock Chapter's efforts and noted that the letter has been submitted to New Mexico's congressional delegation.

Ms. Yazzie added that there are some USDA funds to improve irrigation systems or install gate system technology that shuts irrigation gates when the contamination levels get too high, but that there are limitations to accessing those funds. For example, ownership of land must be proven under concepts of private property, and changes to the federal "farm bill" may be required for tribal entities to access these funds.

A member asked if there had been a formal process established for stakeholders to be compensated for losses associated with the GKM spill. Mr. McQuillan said that, shortly after the spill, the EPA had teams walking stakeholders though the process, but the claims were later denied on the basis of sovereign immunity. However, with a new administrator of the EPA, the claims may be reconsidered. Ms. Yazzie added that, immediately after the spill, forms were circulated requiring individual landowners and farmers to put together a calculation of their losses, but that was before any sampling had taken place or results has been examined to understand what those losses would be. A committee member said that uncompensated claims are a very big and real issue and asked the committees to send a letter to the EPA expressing support for the Navajo communities and other stakeholders and asking that their claims be addressed.

In response to a question about chapter houses' participation on the impact team, Mr. McQuillan indicated that, early on, the Navajo Nation declined to include the chapters. Upon a motion and a second and without opposition, the IAC voted to send a letter of support regarding inclusion of the Shiprock Chapter on the impact team.

President Yazzie presented the committees with a resolution of the Shiprock Chapter supporting legislation naming the Shiprock-to-Gallup portion of U.S. Route 491 as the "Senator John Pinto Highway". Members discussed the introduction of a memorial on behalf of the IAC or the Transportation Infrastructure Revenue Subcommittee and asked staff to work on ideas for endorsement.

Public Comment

Mr. Lorimier addressed the committees on methane capture, noting that Colorado has enacted comprehensive, effective rules and that investments of over $9 billion are taking place in the Permian Basin. He said that, in the absence of federal regulation, New Mexico is in a unique position to enact state regulations so that it can receive royalties on the captured methane and protect public health.

Scott Kovac of Nuclear Watch New Mexico expressed concerns to the committees regarding the extractive industries, nuclear power, the Waste Isolation Pilot Plant and the hundreds of remediated uranium mines in the state. He noted that it is shortsighted to store waste that will inevitably leak into the environment.

Lon Burnam, a public citizen, expressed concerns about the centralized interim storage facility in Quay County proposed by Holtec International and about similar efforts in Texas. A fact sheet was presented on the issue.

Mr. Tso, who lives in Flora Vista, between Aztec and Farmington, and is a member of the Aztec Domestic Water System, expressed concerns about lead deposits that could enter into the shallow water system. He noted that not all reports on the monitoring have been shared with all members of the population that use the watershed. He said that, given the spiritual, mental and

physical health aspects of the GKM spill, there is still trauma in his community and that the disaster is ongoing. Community members have to find ways to translate this trauma so that there is understanding. Mr. Tso expressed support for the naming of U.S. Route 491 as the "Senator John Pinto Highway".

Uranium Mining and Legacy Mine Cleanup Efforts

Kurt Vollbrecht, program manager, Mining Environmental Compliance Section, Ground Water Quality Bureau, NMED, provided the committees with a synopsis of the issue, noting that mine cleanup efforts are a complex problem. For example, the Haystack Mine encompasses federal Bureau of Indian Affairs land, Navajo allotment land and EPA Regions 9 and 6, so various groups are affected.

Susan Gordon, coordinator, Multicultural Alliance for a Safe Environment (MASE), said that MASE is a coalition of five groups composed of community members in the Grants Mining District. She described the history of mining and milling in New Mexico and the Navajo Nation. She said that there are 10,400 uranium mine features in 14 states. In New Mexico, there are 259 abandoned mines, one-half of which have no record of cleanup, and there are 1,100 mines and mill sites in the Navajo Nation. Ms. Gordon stated that the Navajo district produced more uranium than anywhere else and produced one-half of all uranium used for United States weapons programs. The largest nuclear accident in United States history was the Church Rock uranium mill tailings spill in which 94 million gallons of acidic waste were discharged into the Rio Puerco. This resulted in a wave of green liquid that overtook the river, but no formal studies of the spill were undertaken regarding the impacts to the water systems or health.

Ms. Gordon noted that there will be jobs created for the cleanup of the mines as the EPA pursues enforcement actions against companies. She explained to the committees that House Memorial 117, introduced during the 2017 regular session, requests the Bureau of Business and Economic Research at the University of New Mexico to analyze the economic effects of uranium mine cleanup and to assess the capacity of the existing New Mexico labor force to contribute to the cleanup of legacy uranium mines. Ms. Gordon said that, although working in the mines was considered a good economic job, the workers were not warned about the health effects. She said that there is now a need to train people for the new technical positions needed for the cleanups and emphasized that the cleanup jobs will be long-term. She urged support for the study and for the memorial to be introduced as a bill in the 2018 regular session because there is a great need for jobs in the area.

Jonathan Perry, council delegate, 23rd Navajo Nation Council, said that contamination respects no jurisdictions and that this is an issue for all entities and governments in the region. He said that the Navajo Nation established an advisory commission of scientific and technical experts, and that every region has a member, in addition to the at-large member and the youth member. Mr. Perry said that the uranium commission is a step forward in giving a voice to the people in the planning and efforts made in their communities. He said that the Navajo Nation

does not have all of the resources needed to tackle these issues and that it will require the state, the counties, the federal government and various agencies to be involved.

Mr. Perry said that energy development is taking place without regard to the impacts on health and the environment and asked that the parties work together, in good faith, to develop solutions, noting that cleanup of the mines is a solution in terms of providing employment opportunities. He acknowledged that clean drinking water is essential for the future, that the Navajo Nation shares aquifers with other communities and that development outside of the Navajo Nation will greatly impact resources. Mr. Perry urged respect for communities and their members and for living in harmony with nature. He said that there is a need to open the doors of communication between the Navajo Nation and the state.

Chris Villarreal, EPA, Region 6, said that from the 1950s through the 1980s, about 70% of mined ore and 38% of cake production originated from the Grants Mining District and that this mining predated environmental laws. Now, the EPA is investigating the impacts of mining and milling on ground water for use by regulatory agencies, stakeholders and communities to guide their decision making regarding employment, safe drinking water and the impact on health and infrastructure. Public reports and meetings will take place in the fall of 2017.

Mr. Villarreal discussed the $985 million settlement that will fund the cleanup response at the Kerr-McGee/Tronox mines. Efforts will be coordinated among the EPA, the Navajo Nation, the NMED and the Mining and Minerals Division of the Energy, Minerals and Natural Resources Department. A coordinated effort is also being undertaken on reclamation of the San Mateo Mine. Mr. Villareal said that there is a five-year plan to access and address the health and environmental impacts of uranium mining and milling in the Grants Mining District. This is a coordinated effort with the United States Department of Energy (DOE), the BLM, local communities, including the Pueblo of Acoma and the Pueblo of Laguna, and other stakeholders.

Will Duncan, EPA, Region 9, discussed how abandoned uranium mine (AUM) cleanup work is providing opportunities for Navajo-owned businesses and for individuals. The request for proposals for mine assessment and evaluation includes an innovative use of incentives for training and hiring of Navajo businesses and individuals. Contractors must also provide a plan to employ Navajo businesses and individuals, with goals set for the number of Navajo employees and with the percentage of contract dollars expected to go to Navajo businesses. They must include a plan for establishing and maintaining a training program to support the capacity of the Navajo businesses. A prime contractor is also able to earn an additional 5% profit based on the value of each subcontract with an Indian organization or Indian-owned economic enterprise.

In response to a question about the square miles and number of people impacted, the committees were informed that the Grants Mining District encompasses 2,500 square miles, which are sparsely populated but have population centers. Several large Navajo communities are in the vicinity, including approximately 1,800 people and eight chapters. Ms. Gordon explained that the first mines were near Shiprock, which is a very broad area, and that homes are still being

built with contaminated rocks. Mr. Duncan added that the Navajo Nation is 24,000 square miles in area and that there are clusters of mines in the east and north central regions. He said that communities were built around the mines and that people have been impacted due to subsistence living and the impacts of toxicity on animals and plants.

In response to a member's question, Mr. Duncan said that the cleanup effort is not impossible but that it will take several decades. He said that the initial challenges are getting the negotiations in place and determining the extent and magnitude of the problem, including assessing where the contamination has spread and how it is impacting communities — by testing livestock, for example. He said that 10 to 20 years will be needed to address the majority of mines under agreement, settlement and negotiation.

As to the role of the NMED over sovereign lands, Mr. Vollbrecht noted that the NMED has no regulatory authority over the Navajo Nation and that the NMED's role is advisory in nature. He said that when a site is in both New Mexico and the Navajo Nation, there are other standards that need to be achieved above what is required by EPA Region 6. The secretary of environment looks at the damages to resources and tries to put a monetary value on those damages, but the money does not go to cleanup.

When asked who makes up the Navajo Nation's uranium commission, Mr. Perry explained that it was started in 2011 under the previous administration and was approved by the tribal council in 2015. It is composed of technical experts who work with the regulatory bodies to provide recommendations and language to address the cleanup efforts. Mr. Perry said that, at this time, the Navajo Nation does not have regulations in its codes to address uranium cleanup work.

Concerns were raised about how a company is proven to be a Native American company when going out to contract. Mr. Duncan said that there are registrations and certifications for this purpose. He also said that the EPA is working with economic development organizations to get a list of Navajo-owned businesses. While the EPA cannot dictate who a company hires, there is hope for the incentive program, and Navajo-owned businesses are being encouraged to respond to the requests for proposals. There is also a cooperative agreement grant with Diné College to support interns in the field on crop and livestock studies.

Freida S. White, environmental program supervisor, Navajo Nation EPA Superfund Program, addressed the committees on the work of the program on AUMs. She said that economic development is a priority and that some of the available funding is being utilized for training. She highlighted that, under the Contaminated Structures Project, there have been more than 1,100 structures assessed, and more than 44 homes have been replaced. In this process, it is ensured that a home has water, electricity and safe and sanitary conditions. Ms. White said that the Northeast Church Rock, Quivira, Mariano Lake, Black Jack, Mac, Haystack and Cove AUMs are all in various stages of assessment and emphasized that Navajo Fundamental Law requires that the sites be completely remediated, not just reclaimed. In contrast to reclamation,

remediation addresses physical hazards and safety issues and takes risk into consideration. As to current issues, Ms. White said that funding is needed to address 353 AUMs, that more responsible parties need to be held accountable and that funding and action are needed to address housing that was unknowingly built in areas with elevated uranium levels. To address the ongoing concerns, $5.7 million will be needed through 2033, she said.

A member questioned the role of the DOE in working with the EPA in the remediation of sites. Mr. Duncan stated that only mill sites are under the DOE's jurisdiction. When a mill site closes, a permit must be obtained from the United States Nuclear Regulatory Commission, and the long-term operation and maintenance are the DOE's responsibility. The DOE does not have jurisdiction over the mines themselves; the mines are under the EPA's jurisdiction. The DOE does, however, participate in the five-year plan and is committed to addressing the legacy of uranium mines. The DOE also participates in outreach, communication and community involvement. Mr. Villarreal added that both the DOE and the EPA are involved in a uranium mine work group and that they work together to address the larger problem nationally. In response to a question about the prioritization of sites, Mr. Villarreal said that 97 priority sites have been identified and that there is a long-term effort to address all of the mines.

A member asked if any funding is put aside to address health issues due to prior exposure, and Mr. Duncan stated that none of the money can be used for anything other than cleanup. Ms. Gordon stated that the federal Radiation Exposure Compensation Act is available to give compensation to some miners and downwind communities and that work has been done on amendments to include all uranium miners and millers and additional downwind communities, including those exposed during the first atomic blast at the Trinity Site. She said that claims were cut off after 1971 because, prior to 1971, the federal government was responsible, but after 1971, there were commercial interests involved. However, there was no change in safety for miners after 1971. Many people were exposed after 1971, but there is no compensation for them. Ms. White added that there has been no full-fledged response to health impacts. The federal Centers for Disease Control and Prevention has been studying and testing mothers, fathers and infants, with uranium being found in infants.

Public Comment

Talia Boyd, program director, Conservation Voters New Mexico Education Fund, stated that these issues have been plaguing communities for a long time, and she thanked the committees for taking them on. She said that people want health studies and have been asking for such studies since uranium mining in the area began. They want to understand the cumulative impacts. She also said that there has been desecration of sacred sites. The sites have healing powers and have lost their integrity. Ms. Boyd also said that the communities have made great sacrifices with new mines at the bases of Mount Taylor and Church Rock, as well as in the transport of hazardous materials on the freeways and railroads, where there are no hazmat teams to deal with the consequences.

Leona Morgan of the Nuclear Issue Study Group told the committees that her family is from the eastern Navajo Nation and that she has been working on issues related to uranium mining for 10 years. She expressed concerns about two proposed interim storage facilities. She said that it is a big hazard to transport highly toxic waste and that New Mexico does not need such waste coming into the state, especially since New Mexico does not have any nuclear power plants. She stated her opposition to a bill to classify nuclear energy as "renewable" and expressed great concern about Sandia National Laboratories' Mixed Waste Landfill, an unlined dump for nuclear waste. She requested that the landfill be excavated and properly contained, as she said that it will impact the water of the Pueblo of Isleta.

Teracita Keyanna of the Red Water Pond Road Community Association stated that she has experienced a lifetime of uranium exposure. She said that the IAC is a champion that can speak up for the community, and she hopes that the committee can help the community, even with a temporary moratorium.

Adjournment

There being no further business, the third meeting of the RHMC for the 2017 interim adjourned at 2:55 p.m.

Revised: September 22, 2017

TENTATIVE AGENDA
for the
FOURTH MEETING
of the
RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE

September 21, 2017
University of New Mexico-Los Alamos
Lecture Hall 230
4000 University Drive
Los Alamos

Thursday, September 21

10:00 a.m. **Call to Order and Introductions**
—Senator Jeff Steinborn, Chair

10:05 a.m. (1) **U.S. Department of Energy (DOE) Update**
—Doug Hintze, Manager, Environmental Management, Los Alamos Field Office, DOE

11:00 a.m. (2) **Los Alamos Measurement Techniques and Plutonium**
—Dr. Albert Migliori, Laboratory Fellow, National Security Education Center, Los Alamos National Laboratory (LANL)

12:00 noon **Approval of Minutes**

12:05 p.m. **Working Lunch**

(3) **LANL Community Involvement and Investment in New Mexico**
—Kathy Keith, Director, Community Partnership Office, LANL

1:00 p.m. (4) **LANL Overview**
—Charles McMillan, Director, LANL

2:00 p.m. (5) **Community Concerns**
—Andrea Romero, Executive Director, Regional Coalition of LANL Communities
—Gerard Martínez y Valencia, Chair, Northern New Mexico Citizens' Advisory Board
—Scott Kovac, Operations and Research Director, Nuclear Watch New Mexico

3:15 p.m. (6) **Public Comment**

3:30 p.m. **Adjourn**

MINUTES
of the
FOURTH MEETING
of the
RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE

September 21, 2017
University of New Mexico-Los Alamos
Los Alamos

The fourth meeting of the Radioactive and Hazardous Materials Committee (RHMC) was called to order by Senator Jeff Steinborn, chair, on Thursday, September 21, 2017, at 10:09 a.m. at the University of New Mexico-Los Alamos in Los Alamos.

Present
Sen. Jeff Steinborn, Chair
Rep. Carl Trujillo, Vice Chair
Rep. Cathrynn N. Brown
Sen. Carlos R. Cisneros
Sen. Richard C. Martinez
Rep. Larry R. Scott

Absent
Rep. David M. Gallegos
Sen. Ron Griggs
Sen. Gay G. Kernan
Sen. Carroll H. Leavell
Rep. Angelica Rubio
Rep. Debra M. Sariñana

Advisory Members
Sen. Gregory A. Baca
Rep. Stephanie Garcia Richard*
Rep. Jane E. Powdrell-Culbert
Sen. Nancy Rodriguez
Rep. James E. Smith
Rep. Jim R. Trujillo
Sen. William F. Burt
Sen. William H. Payne
Rep. Nick L. Salazar
Sen. Clemente Sanchez

*Representative Garcia Richard was named a voting member for the purpose of this meeting.

Guest Legislator
Rep. Alonzo Baldonado

Minutes Approval
The minutes for this meeting have not been officially approved by the committee.

Staff
Shawna Casebier, Staff Attorney, Legislative Council Service (LCS)
Monica Ewing, Staff Attorney, LCS
Nancy Martinez, Staff, LCS

Guests
The guest list is in the meeting file.

Handouts

Handouts and other written materials are in the meeting file.

Thursday, September 21

Senator Steinborn welcomed members of the committee and the audience to the meeting, and members and attendees introduced themselves.

U.S. Department of Energy (DOE) Update

Doug Hintze, manager, Environmental Management (EM), Los Alamos Field Office, DOE, said that for the past two years, he has served as manager of his office, which was established in 2015 and is responsible for disposition and cleanup of legacy waste. Legacy waste is waste that is the byproduct of nuclear weapons development and research conducted at Los Alamos National Laboratory (LANL) before 1999. EM's cleanup efforts are projected to last through 2035, although the scope of the efforts is continually reassessed, so that date could change.

A 2016 consent order between the Department of Environment (NMED) and EM directs EM's work and divides that work into 17 "campaigns", three of which have been the focus of EM's work over the past two years: 1) chromium interim measure implementation to control chromium plume migration; 2) characterization of a plume of an explosive compound called RDX; and 3) a historical properties completion campaign.

Mr. Hintze recalled an event at the Waste Isolation Pilot Plant (WIPP) in which the structural integrity of storage drums containing remediated nitrate salt was compromised, and he said that 60 similar drums are stored in the area for which EM is responsible. The drums have been refrigerated and are being treated to remove the hazard associated with their initial remediation, and he expects treatment of all 60 drums to be completed by November 2017.

Regarding the implementation of chromium interim measures, Mr. Hintze said that in 2005, a chromium plume was discovered 1,000 feet underground. The plume was caused by a corrosion inhibitor that was released into a canyon. Despite the fact that the inhibitor was last released in 1972, the chromium continues to travel down into the aquifer but has not reached the depth of drinking water sources. EM is drilling wells — at a cost of $2 million to $3 million per well — for use in identifying the boundaries of the plume. EM is balancing its efforts to monitor and stop the plume's spread. The Pueblo of San Ildefonso, the NMED, the DOE and Los Alamos County all monitor the water in the area through sampling.

Regarding the RDX plume, Mr. Hintze said that EM is working to identify the location and size of the plume, which is moving very little, if at all.

LANL's legacy cleanup is currently done under a contract that has expired and will be awarded to another contractor within the month, after which a 90- to 100-day transition between contractors will take place.

Committee members had questions and comments on the following topics.

Legacy waste. The environmental management entity on site at Los Alamos in 1989 identified all the existing waste at that time and defined that waste, created before 1999, as "legacy waste" for tracking and cleanup purposes. EM is responsible only for legacy waste cleanup, and none of that waste is classified.

Drums of waste stored and transported. Two thousand drums are being stored above ground at LANL. Shipment of those drums for permanent storage at WIPP is limited by WIPP's ability to receive shipments, which is reduced due to WIPP's current facility issues. Shipments of waste are packaged based on how the waste will be stored at WIPP. One hundred thirteen drums shipped by LANL to Texas will need remediation, and EM is studying how to do that. Prioritizing shipments of waste for permanent storage at WIPP is done based on safety, and more dangerous waste is shipped first.

Chromium plumes. The Hanford Site in Washington state had a chromium plume similar to the plume in Los Alamos, and the Hanford plume's progression was stopped using sodium dithionite, a method EM is considering for the plume in Los Alamos. The committee voted to send a letter to members of the state's congressional delegation to request that they prioritize funding for remediation of the Los Alamos chromium plume.

Recent safety concerns. In response to a storage drum that burst after shipment from LANL to WIPP, which happened because the drum was packed using organic instead of inorganic kitty litter, LANL identified safety protocols that needed improvement. New quality assurance personnel and procedures were put in place.

Los Alamos Measurement Techniques and Plutonium

Dr. Albert Migliori, laboratory fellow, National Security Education Center, LANL, described a measurement process that he and other scientists developed over more than a decade. The process involves the use of ultrasound measurements, and Dr. Migliori named it resonance ultrasound spectroscopy, or "RUS". A major development in his work came with his group's creation of an aluminum potato, with which the team tested its computation and resonance measurement method. Dr. Migliori was offered the opportunity to use the process to measure plutonium, which he excitedly accepted because testing the substance's compressibility could prove important in the development of nuclear weapons. He learned that it took just a few hours to show changes to the structure of weapons-grade plutonium.

In addition to applications in weapons development, the technique Dr. Migliori helped develop can be used to create "acoustic fingerprints" of various kinds of materials, which can be

used to identify changes or weaknesses in structures and to verify a counterfeit product or material. He noted that the measurement process continues to be refined, and with each generation of RUS hardware created, the process becomes a faster and cheaper measurement method.

Committee members had questions and comments on the following topics.
Technology transfer at LANL. The laboratory has a process used for the transfer of technology developed by its employees, and Dr. Migliori will use that process.

Compression of materials. Compressibility of materials is measured through very controlled and slow compression.

Minutes

The committee approved the minutes from the committee's June 26, July 28 and August 22, 2017 meetings.

LANL Overview

Charles McMillan, director at LANL, described the mission and goals of LANL, which is currently working on issues related to North Korea and investigating issues that will have an impact decades in the future. Approximately 1,000 new employees were recruited by LANL last year, and another 1,000 have been recruited in 2017. Although the operation of LANL will transition to another contractor in 2018, the mission and work of the lab will remain consistent.

Each year, Mr. McMillan provides the President and Congress with an assessment of LANL's stockpile of nuclear weapons, and that communication was sent the previous day. In addition to the country's stockpile, he explained, LANL's global security program includes a focus on nuclear counterproliferation and nuclear nonproliferation.

LANL focuses on four primary pillars in its weapons and global security efforts: 1) materials — designed for specific functions; 2) signatures — development of sensors to analyze information; 3) information science and technology — for processing large amounts of data; and 4) nuclear technology and particles. Regarding safety in operations at LANL, Mr. McMillan said that rates of incidents are carefully monitored. The "total reportable cases", or TRC and "days away from work", or DART rates are reviewed internally and by an external review team. LANL's rates for 2014, 2015 and 2016 have remained below industry standards for the most part.

Mr. McMillan noted that LANL is hiring in all areas of its workforce, and most of its 11,171 employees are full-time employees. He stressed that the education system in New Mexico is critical to an employer like LANL, which is hiring many workers educated in the state's public schools and university systems. He added that LANL is aggressively hiring in part because in the coming five years, approximately one-third of its workers will retire or reach eligibility for retirement.

Committee members had questions and comments on the following topics.

Request for proposals (RFP) process. Questions about the request process and respondents to the RFP should be directed to the DOE.

National security threats. Over the past 75 years the United States' deterrence approach has been successful. North Korea's technology has advanced in recent years with respect to missile capability and nuclear testing.

Competitiveness in computing. China has a faster computer than the United States, and China has made significant investments in research and development and recruiting talent.

LANL hiring. Because the systems of the federal Office of Personnel Management were compromised, it is taking potential employees more than a year to receive a security clearance. More than 1,300 employees are awaiting their clearances.

Safety at LANL. Shipping out of LANL was identified as an area in need of additional safety oversight. Additional areas reviewed for improved safety oversight include management, financial systems, field offices and historical data on accident reports.

LANL Community Involvement and Investment in New Mexico

Kathy Keith, director of LANL's Community Partnership Office, said that her office focuses on three areas: economic development; work with nonprofit organizations and community giving; and education. Because LANL's workforce comes in large part from New Mexico, LANL is invested in being a strong community partner. She highlighted the Los Alamos Employees' Scholarship Fund (LAESF), which enables LANL to invest in economic development by supporting entrepreneurs. LANL's corporate board has awarded more than $35 million to nonprofit organizations since 2006, and employees of LANL contribute more than $3 million each year.

The LAESF was established in 1998, and in its 2017 fund drive, employees raised $400,000, which the lab matched with another $250,000. In addition to scholarships, LANL offers opportunities to high school, undergraduate and graduate students through an internship program. Ms. Keith noted that one scholarship recipient became a mother at the age of 16, graduated in 2011, interned with LANL and eventually received a degree in civil engineering from the University of New Mexico. The LANL internship program worked with 1,639 student interns during the 2015-2016 school year. About one-third of LANL's current employees started as interns at LANL.

LANL is working to develop a science, technology, engineering and mathematics, or STEM, education plan that will help with LANL's workforce needs. LANL has implemented short-term strategies, including partnerships with schools to train radiation control technicians. The most recent education outreach program developed at LANL is a partnership with the

Pojoaque Valley Public School District, and it places professional employees from LANL in district classrooms to assist with teaching math. LANL has also worked in partnership with New Mexico Highlands University on exhibits in the Bradbury Science Museum in Los Alamos. The museum expects an additional 200,000 visits per year attributable to this project.

Committee members had questions and comments on the following topics.

Eligibility for internships. All students are eligible to apply. LANL does not focus its internship recruitment efforts in areas where other similar facilities, such as Intel, focus their efforts.

School partnerships. Participation in the school partnership program is a competitive process by which schools apply to the Public Education Department for consideration. LANL provides employees to assist with teaching in Pojoaque Valley Public School District classrooms five times in a semester and to help train other teachers in the district.

Community Concerns

Andrea Romero, executive director of the Regional Coalition of LANL Communities, said that her organization represents communities with respect to economic development, workforce, materials cleanup, storage and other related issues. The regional coalition has communicated with the National Nuclear Safety Administration about the RFP for the new LANL management contract and has provided input on the draft RFP. The regional coalition also hosted a gathering for all potential bidders on that contract. Ms. Romero noted that the regional coalition would like to ensure that the contractor that will assume management of LANL will not be exempt from the payment of gross receipts taxes.

Gerard Martínez y Valencia, chair of the Northern New Mexico Citizens' Advisory Board, said that the all-volunteer, site-specific advisory board meets every other month and provides input and recommendations to LANL. Mr. Martínez y Valencia explained several issues on which the board is focused, including safety and cleanup issues.

Scott Kovac, operations and research director for Nuclear Watch New Mexico, discussed several issues, including the 2005 and 2016 consent orders related to cleanup at LANL and the chromium plume in Los Alamos. He expressed concerns with the levels of chromium measured in the most recently drilled observation well and with the fact that some radioactive waste located in Area G at LANL is slated to be left in place. He suggested that if waste is to be left in place, the DOE should be required to conduct a 10,000-year performance assessment to determine the long-term effects of the storage of the waste.

Committee members had questions and comments on the following topics.

Tax revenue related to LANL. The state receives significant revenue through taxes paid by the LANL operator, and an exemption for the operator would result in lost revenue. An option could be to require the contractor awarded the operation contract to commit to paying gross receipts

tax. One report showed that in 2006, the state received $41.5 million in gross receipts tax revenue. The state collects income tax revenue on $1 billion in wages paid by LANL.

2016 consent order. Setting deadlines can incentivize completion of cleanup work. Some members are supportive of identifying additional funding sources to help with chromium cleanup. The government may have the option of renegotiating terms related to cleanup deadlines. Community input about consent orders could be useful.

Public Comment

Karen Hadden, executive director of the Sustainable Energy and Economic Development, or SEED, Coalition, expressed concern about the potential impacts of the work of the Eddy-Lea Energy Alliance, LLC. The alliance has proposed in its license application to store 100,000 tons of high-level radioactive waste. A project of that scope could pose risks related to terrorism and transportation of the waste.

Lon Burnham, a former politician in Texas, recalled recent news coverage of the chromium plume and expressed concerns with the toxicity of chromium and its impact on drinking water sources.

Susan Gordon, a representative of the Multicultural Alliance for a Safe Environment, said that it is important that students be trained for jobs related to the cleanup of hazardous waste.

Los Alamos County Councilor Chris Chandler said that the way a business entity chooses to organize itself legally should not be the deciding factor in whether the state receives tax revenue from the entity's operation.

Adjournment

There being no further business before the committee, the RHMC adjourned at 4:02 p.m.

Revised: November 2, 2017

TENTATIVE AGENDA
for the
FIFTH MEETING
of the
RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE

November 3, 2017
State Capitol, Room 321
Santa Fe

Friday, November 3

9:00 a.m. **Call to Order and Introductions**
—Senator Jeff Steinborn, Chair

9:10 a.m. (1) **Methane Capture/Venting and Flaring**
—Ken McQueen, Secretary, Energy, Minerals and Natural Resources Department
—Jon Goldstein, Director, Regulatory and Legislative Affairs, Environmental Defense Fund
—Bill Jordan, Senior Policy Advisor and Government Relations Officer, New Mexico Voices for Children
—Ryan Flynn, Executive Director, New Mexico Oil and Gas Association

11:00 a.m. (2) **Update: Los Alamos National Laboratory Chromium Plume Cleanup**
—Bruce Yurdin, Director, Water Protection Division, Department of Environment
—Doug Hintze, Manager, Environmental Management, Los Alamos Field Office, U.S. Department of Energy
—Danny Katzman, Technical Program Manager, Los Alamos National Security

12:00 noon **Approval of Minutes**

12:05 p.m. **Lunch**

1:00 p.m. (3) **Waste Isolation Pilot Plant (WIPP) Funding**
—Eletha Trujillo, WIPP Program Coordinator, Energy Conservation and Management Division, Energy, Minerals and Natural Resources Department

1:30 p.m. (4) **Interim Spent Fuel Storage**
—John Heaton, Chair, Eddy-Lea Energy Alliance
—Eletha Trujillo, WIPP Program Coordinator, Energy Conservation and Management Division, Energy, Minerals and Natural Resources Department
—Noel Marquez, Alliance for Environmental Strategies

3:00 p.m. (5) **Update: Kirtland Air Force Base Fuel Spill Status and Legacy Military Waste Disposal**
—Diane Agnew, Hydrologist, Department of Environment
—Kate Lynnes, Senior Advisor, United States Air Force
—Dave McCoy, Executive Director, Citizen Action New Mexico

4:15 p.m. (6) **Discussion of Proposed Legislation for Endorsement**

4:45 p.m. **Public Comment**

5:00 p.m. **Adjourn**

MINUTES
of the
FIFTH MEETING
of the
RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE

November 3, 2017
State Capitol, Room 321
Santa Fe

The fifth meeting of the Radioactive and Hazardous Materials Committee (RHMC) was called to order by Senator Jeff Steinborn, chair, on Friday, November 3, 2017, at 9:07 a.m. in Room 321 of the State Capitol.

Present
Sen. Jeff Steinborn, Chair
Rep. Carl Trujillo, Vice Chair
Rep. Cathrynn N. Brown
Sen. Carlos R. Cisneros
Rep. David M. Gallegos
Sen. Gay G. Kernan
Sen. Carroll H. Leavell
Sen. Richard C. Martinez
Rep. Angelica Rubio
Rep. Debra M. Sariñana
Rep. Larry R. Scott

Absent
Sen. Ron Griggs

Advisory Members
Sen. Gregory A. Baca
Rep. Stephanie Garcia Richard
Rep. Jane E. Powdrell-Culbert
Rep. James E. Smith
Sen. William F. Burt
Sen. William H. Payne
Sen. Nancy Rodriguez
Rep. Nick L. Salazar
Sen. Clemente Sanchez
Rep. Jim R. Trujillo

Guest Legislator
Rep. Dennis J. Roch

Minutes Approval

Because the committee will not meet again this year, the minutes for this meeting have not been officially approved by the committee.

Staff
Shawna Casebier, Staff Attorney, Legislative Council Service (LCS)
Monica Ewing, Staff Attorney, LCS
Nancy Martinez, Staff, LCS

Guests
The guest list is in the meeting file.

Handouts
Handouts and other written materials are in the meeting file.

Friday, November 3

Senator Steinborn welcomed members of the committee and the audience, and committee members introduced themselves.

Methane Capture/Venting and Flaring
Ken McQueen, secretary, Energy, Minerals and Natural Resources Department (EMNRD), addressed the release of natural gas by venting and flaring. He said that "surface waste", in the context of oil and gas law, is defined in Section 70-2-3 NMSA 1978 and relates to the loss of gas through venting and flaring. The Oil Conservation Division (OCD) of the EMNRD has promulgated rules (19.15.18.12 NMAC) related to venting and flaring, and those rules generally prohibit venting and flaring except for the 60 days following completion of a well. The rules provide for an operator to apply for an exception to the venting and flaring prohibition. Secretary McQueen noted that operators sometimes apply for an exception because of the possibility of delays that would necessitate venting or flaring, and often, exceptions that are granted are never used.

The gas capture work group recommended, and the OCD implemented, changes to venting and flaring reporting rules. The work group suggested that data on venting and flaring be reported separately and that the data be compared to data from other states. Since October 19, 2015, the OCD has required operators to report venting and flaring data in production reports to the OCD. Secretary McQueen noted that there are now seven categories of non-transported volumes of gas reported to the OCD, which allows analysis of gas lost to venting and flaring. As of 2015, operators are also required to submit with their applications to drill a well a gas capture plan that shows how venting and flaring will be minimized.

Venting and flaring are done for several reasons, but technological advances have reduced the need to vent and flare. Historically, in northwest New Mexico, a significant amount of methane was released through natural gas drilling activity. A new drilling method, horizontal drilling, has mostly eliminated the need for venting and flaring in that area. In southeastern New Mexico, most of the gas produced is marketable, and any need to flare is usually based on infrastructure issues and lack of gas processing capacity.

Regarding lost revenue attributable to vented and flared gas volumes, Secretary McQueen said that lost gas royalties to the state are valued at $11.5 million or $8.6 million, depending on the royalty percentage used. Although the estimated lost royalties appear significant, approximately $1 billion was paid in royalties in 2016.

Secretary McQueen said that between June 2016 and July 2017, the volume of vented gas decreased by 56%. He added that flared volumes have also decreased during that time period by 54%. He noted, referring to slide 12 in his materials, that although the number of rigs in the state has continued to increase, the volume amount of flared and vented gas has continually decreased. Senate Memorial (SM) 102 (2017) requested information on vented volumes on Indian, federal and state lands, and slides 13, 14 and 15 in his materials show volumes of vented and flared gas by basins in the state.

Jon Goldstein, director of regulatory and legislative affairs for the Environmental Defense Fund (EDF), said that the EDF uses economics and science to find solutions to issues such as methane gas release. He said that as much as one-half of all gas released is due to leaks. In New Mexico, almost 600,000 tons of methane is wasted per year, which translates into approximately $28 million in tax and royalty revenue lost.

Mr. Goldstein said that the image on slide 3 of his materials shows a methane hot spot over the San Juan Basin. Scientists analyzed the spot from the air and the ground and found that the hot spot could be attributed to leaks at wells in the area. Leaked methane and other pollutants create ozone and smog issues. Eddy and San Juan counties have significant ozone issues, which lead to asthma and other health concerns. The EDF is working with oil and gas companies and academic researchers to determine how to fix the problem of methane release to benefit the environment, oil and gas companies and the public. Some of the leading oil and gas producers in the country have participated in the studies.

Mr. Goldstein said that Colorado implemented a methane rule in 2014 in cooperation with the EDF and three oil and gas producers: Encana Corporation; Noble Energy, Inc.; and Anadarko Petroleum Corporation. In the week prior to the RHMC meeting, 10 of the largest oil and gas producers announced efforts to reduce methane emissions. Rules like the Colorado rule can encourage producers to inspect wells and identify leaks, which can often be fixed using a wrench. Since implementation of Colorado's rule, reported leaks have decreased by 75%, and the state has not received any operator complaints about the rule. Many states taking action on methane release are "red" states. Wyoming requires quarterly leak inspections, which has resulted in improved air quality.

Bill Jordan, senior policy advisor and government relations officer for New Mexico Voices for Children, said that the EDF analysis of the state's oil and gas industry reveals enough waste to meet the annual heating and cooking needs of all homes in New Mexico. With the royalty revenue the state is losing, an additional 5,000 more children could be enrolled in early education programs. State and federal action is needed to address methane release and the smog-

forming pollutants released with methane. Sensible rules requiring inspection could help curb methane waste.

Ryan Flynn, executive director of the New Mexico Oil and Gas Association (NMOGA), said that flaring is the burning of gas that cannot be processed or sold, and it mitigates against pressure buildup. When an operator flares gas, approximately 98% of hydrocarbons are burned and converted to carbon dioxide. Flaring is preferred to venting, which is the direct release of hydrocarbons into the air. Operators also want to reduce emissions and increase gas capture. Operators have the greatest economic incentive to reduce release of gas. Methane emissions are decreasing in the United States and in New Mexico even as gas production is at an all-time high. Natural gas production increased by 52% between 2011 and 2016. Greenhouse gas emissions in the state are down by 33% from 2012 levels, largely because of conversion to other sources of energy.

Mr. Flynn said that the OCD has existing limits on flaring and requires reporting of vented and flared volumes. The federal Environmental Protection Agency (EPA) also has two relevant rules: OOOO or "quad O", and OOOOa or "quad Oa". Quad O, which was finalized in 2012, regulates hydraulic fracturing at gas wells and requires leak detection and repair. Quad Oa regulates methane as a greenhouse gas and extends to hydraulically fractured oil wells. The federal Bureau of Land Management (BLM) has a methane and waste prevention rule, and recent attempts to stay the rule have been unsuccessful.

Mr. Flynn said that the oil and gas industry is the largest private employer in the state, employing 105,000 New Mexicans. The Interstate Oil and Gas Compact Commission estimates that the BLM rule could result in the loss of more than 5,500 jobs. The NMOGA also commissioned a study by the New Mexico Tax Research Institute on the effect of oil and gas regulations. The study estimated that the state would lose $105 million in royalties due to the BLM's rule. Mr. Flynn said added that New Mexico is the fifth-largest oil producer in the nation and seventh-largest natural gas producer.

Committee members asked questions and made comments on the following.

Methane hot spot in San Juan County. Public forums on the topic have taken place. Some data show that the hot spot is primarily located in Colorado, where rules are more restrictive, but scientists report that the majority of the pollution is from New Mexico. Certain geographic structures emit methane spontaneously, and that could be a source of the hot spot. Time-lapse images of the area could help identify the source of the hot spot.

Health concerns related to pollution. Volatile organic compounds and other emissions lead to smog and related health issues. Ozone is an issue in the Mountain West because of natural features, including altitude.

Marginal wells and associated costs. Marginal wells are not defined in the OCD's rules, but they are considered wells, and they produce 10 barrels or less per day. High- and low-production wells are governed by the same regulations. New Mexico has approximately 30,000 marginal wells, and additional costs to those operators could cause discontinuation of use of the wells.

SM 102 (2017). SM 102 requested the EMNRD to report to the legislature on the amount of natural gas wasted through venting and flaring. The EMNRD plans to complete the report before the 2018 session.

Technological advances in methane detection. Colorado rules and federal rules include pathways for innovation in detecting and monitoring methane emissions.

Development of Colorado's rules. Two of the industry participants in the process were facing consequences, including fines for violations.

Dan Lorimer, a representative of the Rio Grande Chapter of the Sierra Club, noted that despite the EMNRD's and industry's confidence that the issue of methane emissions will resolve itself, he believes it should be dealt with directly because it will not resolve itself.

Update: Los Alamos National Laboratory (LANL) Chromium Plume Cleanup

Butch Tongate, secretary, Department of Environment (NMED), said that addressing the chromium plume at LANL is a top priority. The NMED is working cooperatively with LANL, and they meet monthly to discuss environmental issues.

Bruce Yurdin, director of the Water Protection Division, NMED, explained that in his materials, "Crin" refers to a chromium injection well and "Ex" refers to an extraction well. He referred to a map on slide 3 of his materials, which identifies areas relevant to his presentation, and to a map on slide 4, which shows the plume's estimated boundary and the sites of various wells. Mr. Yurdin explained how the NMED is working with LANL and the federal Department of Energy (DOE) on implementing measures to address the plume. Wells to test and extract water from the plume have been drilled, and water in Los Alamos County and surrounding areas is being monitored. He showed the direction of ground water flow on a map and how that affects the spread of the plume. Finally, Mr. Yurdin explained the next steps the NMED will take in its efforts to address the plume with LANL.

A committee member raised the issue of the NMED's relationship to LANL. The NMED works on issues related to LANL through the DOE's Los Alamos Field Office, which oversees LANL contractors.

Doug Hintze, manager of environmental management for the DOE's Los Alamos Field Office, said that the office's two highest priorities are addressing improperly remediated waste drums and the chromium plume. He invited the members to visit LANL to see the work being

done on the plume. He said that the DOE ensures that issues are addressed at LANL through his office's contract with the LANL contractor operator.

Danny Katzman, technical program manager of Los Alamos National Security, said that he is the lead scientist for the DOE on the chromium plume project. On slide 3 of his materials, he showed the footprint of the plume and the areas from which chromium was released. He said that historical records suggest that the chromium that was released was hexavalent, and not trivalent, chromium.

Mr. Katzman said that the plume is approximately one mile long and one-half mile wide, and he explained the three water zones in the area. The water supply well is about one-fourth of a mile from the edge of the plume. The discovery well drilled in 2006 is referred to as R-28. All of the other wells have been drilled since then. All of the wells are monitored quarterly, and in 2014, the results started showing increasing concentrations of chromium, so LANL and the DOE pursued an interim measure to establish a plan of action leading to a final remedy. The interim measure aims to manage any growth of the downgrading edge of the plume. Six injection wells have been placed, and work is continuing to ensure that the action of injection does not spread the plume. The consent order with the NMED allows for the department to review LANL's work on the plume and to accept or propose modifications to that work.

Committee members asked questions and made comments on the following.

Communities affected by the plume. Residents of Los Alamos County and Pueblo of San Ildefonso are most affected.

Pump and treat water injection. Injection through June 2017 was done at Crin-4 and Crin-5. This involved injection of 30 gallons of treated water per minute. Three months after injection stopped, testing showed reduced chromium levels. The DOE and NMED regard injection as a good treatment method.

Mapping the plume. Estimation and models are used to map the boundaries of the plume. Placing additional monitoring wells on the southern border will require working with the Pueblo of San Ildefonso to ensure that all parties approve of a well's location. Land that is sacred to the pueblo is in the area of the southern edge of the plume, so special drilling methods were used to minimize ground disturbances in that area.

Drinking water safety. Drinking water standards are based on the assumption that a person drinks two liters of water with a certain chromium level for 70 years.

Cost of drilling monitoring wells. The cost is approximately $3 million to $3.5 million per well, depending on the well's location.

Chromium removed through extraction. Thirteen kilograms of an estimated 2,000 to 3,000 kilograms of total chromium have been extracted from the plume.

Members of the public made the following comments.

Joni Arends, a representative of Concerned Citizens for Nuclear Safety, submitted a report outlining her organization's concerns. She expressed the need for a contingency plan in the event that drinking water is contaminated.

Jay Coghlan, a representative of Nuclear Watch New Mexico, said that at one point, LANL asked for but was denied a waiver from the NMED requirement that LANL monitor drinking water. He stressed the importance of knowing the boundaries of the chromium plume and said that many potential financial penalties have been forgiven by the NMED.

Glenn Bedell informed the committee of a technology he helped develop with Richard Guadalupe MacDonald that involves using a plant to address environmental concerns, including the removal of arsenic. He presented information on a study he performed in connection with the Gold King Mine spill.

Proposed Memorial in Support of the U.S. Defense Nuclear Facilities Safety Board

Senator Steinborn provided information about the Defense Nuclear Facilities Safety Board, which he said is important to ensuring the safety of the state's national laboratories. Current efforts to eliminate the board are under way. He proposed a draft memorial for endorsement by the committee to urge Congress to support and fund the board. As an alternative, he proposed that the committee send a letter to the state's congressional delegation that is substantively similar to the memorial.

A committee member asked why the board is being considered for elimination. Senator Steinborn said that some government contractors believe the board presents an obstacle and is unnecessary. However, Senator Steinborn noted, the ongoing safety issues at LANL are the type of issue the board is intended to oversee. The board is the only independent entity overseeing the laboratories. The board makes reports and referrals to the National Nuclear Safety Administration and the DOE.

A member expressed the need for further discussion of the issue before sending a committee letter. Another member suggested that those members who support sending the letter could sign on to it individually.

Waste Isolation Pilot Plant (WIPP) Funding

Eletha Trujillo, WIPP coordinator for the Energy Conservation and Management Division of the EMNRD, said that her division oversees transport of material to WIPP. She provided a copy of the EMNRD's assistance agreement with the DOE, which documents the award of funding to the EMNRD for the second year of a five-year budget. She also provided a copy of the five-year budget, noting that the budget has decreased and that shipments to WIPP lapsed

when WIPP was partially closed. WIPP would previously receive 25 to 30 shipments per week. That number decreased for a time to between five and eight shipments per week and is now approximately eight shipments per week. The new budget was developed using current projections of shipments.

Ms. Trujillo added that her program works with the Homeland Security and Emergency Management Department, the Department of Public Safety, the NMED, the Department of Health and the Fire Marshal Division of the Public Regulation Commission.

Committee members asked questions and made comments on the following.

Effect of WIPP's partial closure on the budget. Inspectors from the EMNRD did not travel as much when in-state shipments were reduced, but the department continued to conduct trainings so that part of the budget was less affected.

Number of shipments to WIPP. It is unlikely that more than 20 shipments to WIPP per week will ever resume; however, shipments will likely increase to approximately 15 to 20 per week in the coming years. The reduced number of shipments to WIPP is based on the air quality concerns at the facility.

Travel routes for trucks delivering to WIPP. It appears to be safer to use Texas State Highway 176 into New Mexico for transport. Members requested copies of maps showing transportation routes.

Interim Spent Fuel Storage

John Heaton, chair of the Eddy-Lea Energy Alliance (ELEA), updated the committee on the proposed centralized consolidated interim spent fuel storage facility. He noted that just 13 states in the country do not house nuclear facilities. The DOE has to take title to spent nuclear fuel, and the interim storage facility would be a safe way to store the fuel before it is placed in permanent storage. Regarding the need for interim storage, Mr. Heaton noted that Oak Ridge National Laboratory completed a study predicting that over $40 billion could be saved by 2040 with the use of interim storage. The use of interim storage also creates an opportunity for the scientific community to devise other uses for spent fuel.

Mr. Heaton described the preparation of an empty canister used for interim storage. Spent fuel rods are approximately the diameter of a person's finger. Canisters are filled under water, and the tops of the canisters are welded on. Once filled, canisters are transferred for storage in a cask array on a concrete pad. In the first five years, stored spent fuel decays rapidly and is completely decayed within 200 years.

The ELEA considered many canister manufacturers and decided that Holtec International manufactures the safest and most secure storage system. The company has a good financial record and is receiving international recognition. Holtec's storage technology allows spent fuel to

be stored directly without repackaging and includes several features that protect from radiation exposure. Licenses would have to be obtained to use Holtec's system, and a license application for storage at the proposed site was submitted on March 31, 2017. The application proposed storage of 500 canisters, but that number will likely be amended to allow for storage of up to 10,000 canisters. The federal Nuclear Regulatory Commission (NRC) provided comments on the application, and the ELEA is in the process of answering those comments. Afterwards, a public hearing will be held.

Proposed benefits of the storage facility include 10 years of construction activity and 350 jobs at the storage site. If repackaging of spent fuel is added to the work performed at the site, additional jobs would be created.

Committee members asked questions and made comments on the following.

Legislative aspect of the proposed facility. Legislation is not necessary, and the DOE is not involved with projects that are privately funded.

Other interim storage facilities. There are other similar facilities currently in operation, and one on the site of the former San Onofre Nuclear Generating Station has been built but is not yet storing fuel.

Mineral rights associated with the proposed site. Rights will remain intact and would not be affected by the site.

Accidents in transporting spent fuel. Mr. Heaton reported that he is unaware of any accidents having occurred in over 40 years of transporting spent fuel. The Holtec shipping cask has been certified by the NRC. A representative of Sandia National Laboratories has made presentations on transport of spent fuel.

Community safeguards. Financial assurance will be required from Holtec for potential cleanup and remediation needs. The NRC requires such assurances.

Community input. Most civic groups in the affected areas support the proposed project. Legislators that represent the areas have reached out to residents. Overall, Lea County residents support the project, although some have said they do not.

Ms. Trujillo explained that her division focuses on the safe transport of spent nuclear fuel. Federal law requires spent fuel to be stored at a monitored facility. She said that the Western Governors' Association policy requires the DOE to follow the WIPP transportation plan. The intention is for states to work collaboratively with the DOE, the railroad industry and other involved private entities and to ensure that states are actively engaged in developing safe waste transportation plans. She emphasized the importance of New Mexico being represented any time the transportation of spent nuclear waste is considered, and she suggested that New Mexico

should have representation on the blue ribbon commission that reports to the DOE on related issues.

Committee members asked questions and made comments on the following.

Importance of transportation issues. Even if New Mexico does not ultimately store spent fuel, it is still important that New Mexico consider transportation, which could happen in-state.

Status of the interim storage project. A decision to create the interim storage facility has not yet been made. It is a federal-level policy decision.

Noel Marquez, a representative of Alliance for Environmental Strategies (AES), said that jobs related to radioactive waste are not healthy or sustainable and his alliance is concerned about the risks of an interim storage facility. The land and his community are sacred and should be protected, but that position seems to be disregarded. About 50% to 60% of the population in the area of the proposed facility is Hispanic, and information about the proposed facility is not provided in Spanish. He believes that there is a lack of truthful information about the risks of contamination and the health hazards associated with radioactive waste.

Rose Gardner, a representative of AES, said that the safety of all children, including unborn children, is paramount. Radioactive waste exposure is known to cause cancer, and she has spoken with people who live near a site in New England that is affected by radioactive materials and who are experiencing illness. The federal government should identify safe and permanent ways to store waste, and the consent of affected communities should be obtained. She also noted dangers associated with moving waste more than once and with terrorist activities in areas where waste is stored.

Members of the public made the following comments.

Karen Hadden, a representative of the Sustainable Energy and Economic Development, or "SEED" Coalition, said that the amount of waste being considered for storage —100,000 tons — is the equivalent of all of the most dangerous waste from all nuclear reactors in the country. The risks of storing and moving that waste are significant, and such activity is unprecedented. Based on the DOE's estimates of waste shipments, at least 12 accidents should be expected. She added that the testing of casks has been inadequate and is based mostly on computer modeling.

Tom "Smitty" Smith said that people are guessing that a transportation solution will be developed rather than ensuring one is developed first. Damage from a spill would be significant, especially if it occurred in an urban area. Hosting the interim storage facility for only 150 jobs does not make sense, especially because it is likely that it will be difficult to identify an entity to move the waste to permanent storage in the future.

Mr. Bedell agreed with Mr. Smith's comments and noted that there are environmental justice issues, especially for affected communities of color.

Susan Gordon, a representative of the Multicultural Alliance for a Safe Environment, said that there are 15,000 uranium mines in western states that need to be remediated before New Mexico begins storing spent fuel. Waste should be stored in a way that prevents it from ever being used for a nuclear weapon. The federal Nuclear Waste Policy Act of 1982 would have to be amended to allow New Mexico to receive incentives in connection with the storage facility.

Deborah Reade noted that public participation processes are inadequate, and materials should be provided in Spanish. It is difficult to view the index of records related to the project that are stored at the NMED.

John Buchser, a representative of the Rio Grande Chapter of the Sierra Club, has concerns about ground water and the dangers posed by storms that could bring significant amounts of water to an area and allow the spread of toxic waste.

Update: Kirtland Air Force Base Fuel Spill Status and Legacy Military Waste Disposal

Diane Agnew, a hydrologist with the NMED, said that she is the lead on the Kirtland jet fuel spill project. The project is managed through a corrective action process, part of which includes the submittal of a federal Resource Conservation and Recovery Act of 1976 (RCRA) facility investigation report (RFI). The completion of an RFI is an important milestone and is the beginning of the project's final phase. The NMED will review the RFI, and when an agreement is reached, the corrective measures evaluation (CME) will take place. The process is complex and includes risk assessments. She described the actions being undertaken voluntarily by the United States Air Force (USAF) while the RFI and CME processes are under way. Work plans will be available for review by the public.

Ms. Agnew referred to a map on slide 6 of her materials, which shows the location of the jet fuel plume and drinking water supplies. She said the plume sits on top of two semipermeable sediment layers and clay.

Although some members of the public have requested to be involved in meetings related to the RFI, Ms. Agnew said it is important that conversations related to the report can take place without distractions to allow development of resolutions. Public outreach related to the project is ongoing.

Kate Lynnes, a senior advisor with the USAF, said that the risk assessment report has been submitted to the NMED and is under review. She reviewed the report's key findings with respect to off-site locations and on-site locations. In the process of preparing the report, data were used to assess exposure to toxins. The report also considers current and future uses of affected land. The NMED provides guidance on assessing the risks related to exposure in residential and recreational land-use scenarios. Regarding screening levels, Ms. Lynnes said that

once levels are developed and used to assess various sites, no further action is necessary if a site's contamination concentration is below the relevant screening level. If a screening level is exceeded at a site, however, cleanup efforts are not necessarily immediately warranted.

Ms. Lynnes noted that the next public meeting is scheduled for November 14, 2017, and a "deep dive assessment" will be conducted at that meeting.

Members of the public made the following comments.

Dave McCoy, a representative of Citizen Action New Mexico, said that the legislature passed a joint memorial four years ago to request an independent review of the Kirtland spill, but that review never happened. Such a review is more necessary now than ever. An additional report, not referenced in the presentation, raised concerns with parts of the RFI. The RCRA requires assessment of the extent of contamination, and it is unclear how far the spill has moved vertically and horizontally. Although 300 million gallons of water have been extracted and cleaned, there could still be another million grams of ethylene dibromide to be removed. He said that 53 of the monitoring wells are submerged and are useless in monitoring water. He provided links to the additional report he referenced in materials provided to the committee.

Dr. Eric Nuttal said that the Kirtland spill is much more serious than it is made out to be, as are the dangers of drinking water contaminated with ethylene dibromide. He said that independent review and oversight of the entire project are needed.

Committee members asked questions and made comments on the following.

Involvement of New Mexico's congressional delegation. The delegation has been contacted many times about the issue.

Independent oversight and review. Technical working group meetings include representatives of the EPA, the United States Geological Survey, local authorities and others. The meetings and participation in them are difficult issues because open discussion needs to be possible, and the public would like to understand the process of developing a work plan. Some would like to review minutes and other reports of what takes place at technical working group meetings. There is interest in revisiting a memorial on the issue.

Need for additional monitoring wells. The USAF does not believe an additional $13 million should be spent to drill more wells.

Scope of the spill. The mass of the contaminant spilled is not known. It is possible that the spill will travel more quickly as it travels through different media.

Community outreach. There have been technical workshops at which experts, data and reports were available. The meetings were productive but not well-attended. Additional

outreach includes phone calls, lunches with interested parties, school visits, emails and community forums. The NMED and the USAF are open to working with communities.

Adjournment

There being no further business for the 2017 interim, the fifth meeting of the RHMC was adjourned at 5:51 p.m.

Legislative Council Service
Santa Fe, New Mexico