

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

**August 23, 2019
University of New Mexico-Los Alamos
Wallace Hall, 4000 University Drive
Los Alamos**

The second meeting of the Radioactive and Hazardous Materials Committee was called to order by Representative Angelica Rubio, chair, on Friday, August 23, 2019, at 9:19 a.m. in Wallace Hall at the University of New Mexico-Los Alamos (UNM-LA) in Los Alamos.

Present

Rep. Angelica Rubio, Chair
Sen. Jeff Steinborn, Vice Chair
Rep. Eliseo Lee Alcon
Rep. Phelps Anderson
Rep. Cathrynn N. Brown
Rep. Christine Chandler
Sen. Carlos R. Cisneros
Sen. Ron Griggs
Sen. Richard C. Martinez
Sen. Nancy Rodriguez

Absent

Sen. Gay G. Kernan
Rep. Joseph L. Sanchez

Advisory Members

Sen. Gregory A. Baca
Rep. David M. Gallegos

Sen. William F. Burt
Sen. Gregg Fulfer
Sen. William H. Payne
Sen. Clemente "Memé" Sanchez
Rep. Debra M. Sariñana
Rep. James G. Townsend

Staff

Shawna Casebier, Staff Attorney, Legislative Council Service (LCS)
Tabitha Enriquez, Research Intern, LCS

Guests

The guest list is in the meeting file.

Handouts

Handouts and other written testimony are in the meeting file.

Friday, August 23

Welcome and Introductions

Representative Rubio welcomed members, staff and guests to the meeting. Committee members and staff introduced themselves.

Welcome — UNM-LA

Dr. Cynthia Rooney, chief executive officer, UNM-LA, thanked the committee for its attendance and welcomed everyone to the campus. Dr. Rooney pointed out that UNM-LA students are enrolling in a new training program to prepare for work at Los Alamos National Laboratory (LANL) and Newport News Nuclear BWXT-Los Alamos (N3B), LANL's legacy cleanup contractor. She noted that funding from the Workforce Solutions Department helped to create an apprenticeship program for radiological control technicians and nuclear-trained operators. Dr. Rooney expressed her belief that these career opportunities will improve New Mexico's economy and thanked the legislators for their support.

Department of Environment (NMED) Statewide Priorities

James C. Kenney, secretary, NMED, presented an overview of the department's priorities. Stating that the NMED's mission is to protect and restore the environment and to foster a healthy and prosperous New Mexico for present and future generations, Secretary Kenney explained that the NMED is a large department that not only manages air and water quality but also oversees regulations governing food manufacturing; hemp manufacturing; public pools and spas; radiation equipment; and liquid, solid and hazardous waste.

Secretary Kenney stated that he believes that the NMED should rely on science; embrace innovation; collaborate with New Mexico stakeholders; and ensure compliance with state regulations, permits and rules. Secretary Kenney introduced his leadership team, including Maddy Hayden, public information officer, NMED; Stephanie Stringer, director, Resource Protection Division, NMED; and Jennifer Hower, general counsel, NMED.

Secretary Kenney outlined the NMED's legislative priorities, which include the Produced Water Act (2019 House Bill 546); the Energy Transition Act (2019 Senate Bill 489); the Hemp Manufacturing Act (2019 Senate Bill 581); and Governor Michelle Lujan Grisham's Executive Order on Climate Change and Energy Waste Prevention (Executive Order 2019-003). He explained that the NMED is currently focused on ensuring compliance with existing rules and addressing past federal legacy contamination issues. He noted that another priority of the NMED is to modernize regulations to become competitive and increase fees in a way that will pay for programs and establish the NMED as an enterprise.

To increase communication with the public, Secretary Kenney said that the NMED has hosted meetings with constituents, associations and legislators. He said that the department reaches out to the public through press releases, interviews and editorials, and he reported that the department has a Twitter account and uses the hashtag #IamNMED to highlight the

department's civil service. Secretary Kenney said that he plans to launch a presence on Facebook and Instagram in the future.

Secretary Kenney said that currently there are more than 100 staff vacancies and explained that the NMED's vacancy rate has been 21% in the past, and it is currently 18%. He said that the department is now building capacity but it needs additional funding to get to a vacancy rate of 12%. Secretary Kenney explained that additional funding would be used to employ needed engineers, drinking water staff, food personnel, air quality staff and hazardous waste inspectors.

In response to questions, Secretary Kenney stated that:

- the NMED has no legal or regulatory power to address lead pipes that are contaminating water;
- 95% of hazardous waste generators are not inspected annually due to funding limitations; and
- activity in the Permian Basin has degraded air quality in seven counties; he said that the Environmental Improvement Board report concluded that health impacts are localized.

Committee members discussed staffing vacancies, concerns about small water associations and balancing environmental concerns with economic benefits.

LANL Operations and Updates

Dr. Kelly Beierschmitt, deputy director of operations, LANL, provided an overview and update on laboratory operations.

Dr. Beierschmitt explained that LANL is a 36-square-mile facility that employs over 8,765 career personnel, research and development scientists, veterans, postdoctorates and students. He informed the committee that LANL is currently involved in 4,700 projects, including capital projects; science, technology and engineering programs; weapons programs; global security initiatives; and institutional operations. Dr. Beierschmitt reported that LANL's funding for fiscal year (FY) 2019 is estimated to be \$2.864 billion.

Even with hundreds of personnel retiring each year, Dr. Beierschmitt stated that LANL has a growing staff. He assured the committee that LANL is committed to building a local workforce by recruiting students and postdoctorates as technical staff. He said that native New Mexicans and graduates from New Mexico's colleges and universities are highly represented in LANL's personnel.

Dr. Beierschmitt highlighted some of LANL's recent accomplishments, which include eight R&D 100 Awards in 2018 for products that bolster United States national security. He pointed out LANL's strong outlook and predicted growth in the future. To achieve the United

States Department of Defense's pit production requirements, the National Nuclear Security Administration (NNSA) of the United States Department of Energy (DOE) recommended maximizing pit production at LANL to at least 30 pits per year.

Dr. Beierschmitt announced that LANL is expected to complete at least \$5.5 billion in construction projects between FY 2020 and FY 2024. The total estimated cost of all projects is \$11.2 billion through FY 2030, he said.

Dr. Beierschmitt responded to questions as follows:

- he assured the committee that the DOE and the Defense Nuclear Facilities Safety Board (DNFSB) have full access to LANL sites and that none of their requests are denied;
- he stressed the need for residences and infrastructure to support the growing workforce in Los Alamos; and
- he explained that LANL's biggest challenges are aging infrastructure, a need for waste management staff and the cleanup of the chromium plume.

Committee members discussed the importance of starting science, technology, engineering and mathematics programs in elementary schools to encourage younger children to enter these fields. Members also discussed the need for transparency and public input on issues of infrastructure, public health, the environment and jobs. Members requested information on the connector road that has been proposed to ease traffic issues in Los Alamos.

NMED Compliance Order on Consent with LANL Update

Ms. Hower provided the committee with an update on the NMED's compliance order on consent with LANL. She noted that the consent order was signed by the NMED and the DOE in June 2016.

Ms. Hower stated that corrective action for releases of hazardous waste or its constituents at LANL are conducted under the consent order. She said that the consent order is an "enforceable document" and the sole mechanism for enforcing corrective action activities at LANL.

Corrective action activities are organized by campaign using a risk-based approach, and there are currently 17 identified campaigns, Ms. Hower explained. She added that each year, the DOE identifies, and the NMED approves, 10 to 20 campaign-related milestones for the federal fiscal year (FFY) and 10 to 20 targets for each of the next two years.

Describing the annual planning process, Ms. Hower noted that it allows for revisions to milestones, targets and cleanup campaigns. However, scheduled milestones for the current FFY are enforceable and subject to stipulated penalties, she said. Ms. Hower stated that the DOE is

required to provide the NMED with an estimated completion date for all work under the consent order and that for FFY 2019, the date is 2036.

Ms. Hower stated that in the first year, FFY 2017, 15 of the 16 milestones were completed and one was granted an extension; in FFY 2018, 15 milestones were set, 13 deadlines were met and two were granted extensions; and in FFY 2019, 20 milestones were set and as of June 30, 11 milestones have been met and one was granted an extension. Ms. Hower explained that there are eight remaining milestones that are due by September 30, 2019, which is the end of FFY 2019, and that the annual planning process is currently in progress for FFY 2020.

Ms. Hower explained that the DOE monitors ground water at and around LANL. She said monitoring is conducted in accordance with N3B and the Interim Facility-Wide Groundwater Monitoring Plan (IFGMP). Ms. Hower stated that the IFGMP focuses on monitoring activities at the following area-specific monitoring groups: Technical Area (TA)-21, Chromium Investigation, Material Disposal Area (MDA) C, TA-54, TA-16 260 and MDA AB and that the data is reported to the NMED in an annual periodic monitoring report for each group.

Doug Hintze, manager, Environmental Management, Los Alamos Field Office (EM-LA), DOE, provided a progress update on the consent order.

Explaining that the consent order provides a framework and guidance for legacy cleanup, Mr. Hintze said that the EM-LA's life cycle cost estimate table is based on a campaign approach and is determined by funding. This allows the EM-LA to work on multiple cleanup campaigns at the same time.

Mr. Hintze commented that in the last three years, the DOE has been able to clean up a dozen sites and has characterized 100 more. He reported that in FY 2019, the DOE requested approximately \$195 million in funding and received \$220 million. He said that these additional funds will help to accelerate the cleanup effort.

Mr. Hintze mentioned that the EM-LA plans to hold a values workshop in October to learn more about the community's cleanup priorities and to increase public participation in the decision-making process.

Committee members discussed staffing; campaign milestones, targets and extensions; and federal funding of cleanup campaigns.

Approval of Minutes

Upon a motion made, seconded and without any objections, the committee approved the minutes of the June 13, 2019 meeting.

Chromium Plume Cleanup Update

Ms. Stringer provided the committee with an update on the chromium plume. She explained that between 1956 and 1972, an estimated 72,000 kilograms of hexavalent chromium, or chromium (VI), was discharged into a canyon east of Los Alamos. Chromium contamination was first discovered in the ground water in 2005. Ms. Stringer said that the chromium plume is sitting on top of a regional aquifer and is approximately one mile long and one-half mile wide; 900 to 1,000 feet below ground; and present within the first 100 feet of the water table.

Ms. Stringer described the interim measure (IM) to control migration of the chromium plume, explaining that five chromium extraction wells were installed to pump out and treat water. The treated water is then replaced through five injection wells. Additional monitoring wells and piezometers were installed for subsurface investigations. Ms. Stringer said that this data has helped the NMED understand the boundaries of the plume. She pointed out that a new characterization and performance monitoring well, R-70, was completed in May 2019.

Ms. Stringer reported that the monitoring network shows that the ground water is flowing to the east southeast and that the IM has been continuously operating at the southern boundary of the plume for approximately one year. Monitoring results indicate that the IM has contained the plume and has greatly reduced chromium concentrations at injection wells. Ms. Stringer reported that the IM at the eastern boundary of the plume is ready for operation but is currently waiting for an emergency authorization from the Office of the State Engineer.

Ms. Stringer then discussed the amendments pilot study, which is deploying molasses and sodium dithionite amendments for in situ chromium remediation. The DOE reported that both amendments can reduce or transform chromium (VI) into chromium (III) for at least two years. Ms. Stringer stated that the Phase I Progress Report was submitted to the NMED on July 31, 2018. The Phase II Work Plan was granted an extension in June 2019 and is contingent upon the results of the Phase I study.

Citing problems with the amendments pilot study, Ms. Stringer said that it is not known how much of the aquifer has been treated on-site or if the amendments can be delivered on a wider scale. Ms. Stringer reported that the amendments have created elevated levels of certain constituents and that the molasses amendment may cause damage to the aquifer's permeability. She pointed out that the amendments do not provide a long-term solution.

Ms. Stringer noted that the NMED and the DOE formed a core team and a technical team for the chromium project in 2018. The technical team recently agreed that three additional regional wells should be installed to further define the extent of the plume.

Ms. Stringer outlined the additional work that needs to be completed before the chromium corrective measures evaluation (CME) is prepared: new monitoring wells are needed to determine the horizontal and vertical extent of the chromium contamination; high-resolution site characterization work is needed to identify the high chromium flux; and data needs to be

gathered on the entry points, distribution, pathways and inventory of chromium in the vadose zone. Ms. Stringer said that the NMED needs to evaluate and assess whether the pump-and-treat process or chemical/biological amendments provide the best remedial options for the chromium plume.

Mr. Hintze presented an update on LANL's chromium project, reporting that the DOE installed 25 monitoring wells to characterize and monitor the plume. He said that the DOE has planned, implemented and operated the IM's five extraction wells and five injection wells along LANL's boundary with the Pueblo of San Ildefonso. Mr. Hintze said that over 103 million gallons of water have been pumped from the plume and treated.

Noting that the DOE is currently developing plans to install two additional monitoring wells to better characterize the northwestern and southwestern portions of the plume, he reported that the DOE has spent over \$90 million to characterize the plume, arrest its migration through the IM and study remedial options for a final remedy.

Mr. Hintze pointed out that full implementation of the IM is scheduled for 2019. The DOE will continue studies to evaluate possible components of the final remedy, and the DOE plans to submit the CME report to the NMED in 2021. Mr. Hintze stated that the DOE plans to submit a Corrective Measures Implementation Plan to the NMED in 2023 or 2024 and that the DOE will install, operate and monitor the final remedy starting in 2025.

Committee members discussed final remedy options and concerns over the migration of the chromium plume. The committee also discussed public outreach and education on the topic.

DNFSB

Jonathan Plaue, resident inspector, DNFSB, presented an update on the DNFSB's oversight activities at LANL.

Mr. Plaue provided the committee with an overview of the DNFSB. He explained that the DNFSB was established by Congress in 1988 to provide independent analysis, advice and recommendations to the United States secretary of energy and to provide adequate protection of public health and safety at defense nuclear facilities. The secretary of energy determines how to apply the information provided by the DNFSB. Mr. Plaue noted that there are currently two board member positions that are vacant.

Mr. Plaue stated that the DNFSB provides oversight on nuclear weapons, remediation of nuclear waste and legacy facilities, design and construction of new DOE defense nuclear facilities, aging and deteriorating critical infrastructure at DOE defense nuclear facilities and adequacy of DOE safety standards. He assured the committee that resident inspectors perform near-continuous oversight at LANL.

Mr. Plaue explained that the DNFSB is concerned only with facilities operated by the DOE that are covered by the federal Atomic Energy Act of 1954 and have a function related to national defense. This does not include the DOE's civilian nuclear projects or the commercial nuclear facilities that are regulated by the United States Nuclear Regulatory Commission. The DOE has three defense nuclear facilities in New Mexico: LANL, Sandia National Laboratories and the Waste Isolation Pilot Plant, he said.

Mr. Plaue said that the DNFSB reviews the design, construction, operation and decommissioning of defense nuclear facilities. The DNFSB is authorized to issue formal recommendations to the secretary of energy; request information from the DOE; conduct public or closed hearings and meetings and subpoena witnesses; and conduct investigations and special studies.

The DOE is required by law to grant the DNFSB access to facilities, personnel and information that are deemed necessary for it to carry out its responsibilities. Mr. Plaue discussed three board member visits to LANL and three DNFSB letters to the DOE in 2018 and 2019. He discussed the DNFSB's 2018 letter to the NNSA administrator, which addressed specific oversight areas for LANL.

In regard to DOE Order 140.1, Mr. Plaue said that the DNFSB is concerned about the order because it provides a new definition of "public health and safety" that only includes individuals located beyond the site's boundaries, thereby excluding on-site individuals and workers from the DNFSB's oversight. The order lacks a clear provision to provide the DNFSB with the access necessary to carry out its responsibilities. Mr. Plaue pointed out that the order provides exemptions allowing the DOE to deny the DNFSB access to nuclear facilities and contains an allowance for the DOE to deny DNFSB requests. The DNFSB has held three public hearings and has sent three letters to the secretary of energy regarding the order.

Mr. Plaue explained that the NNSA modified Triad National Security, LLC's contract at LANL to include the DOE order in March 2019. Triad subsequently updated its internal procedure for interface with the DNFSB in June 2019. The modified contract requires NNSA approval for predecisional or draft documents, strengthens the default flow of information for approved documents and maintains provisions for Triad personnel to fully cooperate with resident inspectors.

Mr. Plaue said that Triad has resolved database access concerns created by the previous contractor. He noted that NNSA personnel denied the resident inspectors access to observe a meeting on nuclear material supply on the grounds that it was predecisional.

Mr. Plaue said that the EM-LA has not yet updated N3B's contract to include the new order. He said that resident inspectors are not afforded the same level of default information flow from N3B that Triad provides. The lack of a documented interface procedure has resulted in confusion on expectations for full cooperation with resident inspectors.

Anna Hansen, commissioner, Santa Fe County Board of County Commissioners, expressed her concern over DOE Order 140.1. She has requested the DOE to rescind or revise the order to remove restrictions on the DNFSB. Ms. Hansen said that the order takes away the DNFSB's oversight for 18 facilities across 12 states.

Public Comment

J. Gilbert Sanchez, Tribal Environmental Watch Alliance, expressed concerns that contaminated water has a negative impact on the health of future generations and can migrate to the sacred ancestral lands of the Pueblo of San Ildefonso.

Scott Kovac, Nuclear Watch New Mexico, raised concerns on the compliance order on consent. Mr. Kovac said that the consent order is too flexible because it has allowed hundreds of extensions and milestones to be postponed due to a lack of funding. He expressed concerns that in 2036 there will still be more work to do.

Ms. Hansen expressed concerns about the chromium plume cleanup. She also requested more monitoring at LANL.

Joni Arends, Concerned Citizens for Nuclear Safety, stated that the community needs more notice of public meetings. Ms. Arends suggested bench-testing mycelium as a treatment for the chromium plume. She discussed the need for more funding for the cleanup process.

Jay Coghlan, Nuclear Watch New Mexico, expressed his lack of trust in the DOE and N3B. Mr. Coghlan requested a more open, honest and transparent cleanup process.

Adjournment

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