MINUTES
of the
THIRD MEETING
of the
WATER AND NATURAL RESOURCES COMMITTEE

September 5-6, 2019
Ruidoso Convention Center
111 Sierra Blanca Drive
Ruidoso

The third meeting of the Water and Natural Resources Committee was called to order by Senator Joseph Cervantes, chair, on September 5, 2019 at 9:12 a.m. at the Ruidoso Convention Center in Ruidoso.

Present
Sen. Joseph Cervantes, Chair
Rep. Matthew McQueen, Co-Vice Chair
Rep. Abbas Akhil (9/5)
Rep. Gail Armstrong
Sen. Craig W. Brandt
Rep. Joanne J. Ferrary
Rep. Larry R. Scott
Sen. Benny Shendo, Jr. (9/5)
Rep. Nathan P. Small (9/5)
Rep. Melanie A. Stansbury
Sen. Jeff Steinborn (9/5)
Sen. Mimi Stewart
Rep. James R.J. Strickler
Rep. Candie G. Sweetser
Sen. Pat Woods

Absent
Rep. Derrick J. Lente, Co-Vice Chair
Rep. Paul C. Bandy
Rep. Christine Chandler
Rep. Angelica Rubio
Sen. Sander Rue

Advisory Members
Rep. Anthony Allison
Sen. Pete Campos
Rep. Randal S. Crowder
Sen. Gregg Fulfer (9/5)
Sen. Ron Griggs (9/5)
Sen. Gerald Ortiz y Pino
Sen. Mary Kay Papen
Rep. Jane E. Powdrell-Culbert
Rep. William "Bill" R. Rehm
Sen. Nancy Rodriguez
Sen. Antoinette Sedillo Lopez
Rep. James G. Townsend
Rep. Jack Chatfield
Sen. Carlos R. Cisneros
Rep. Candy Spence Ezzell
Rep. Susan K. Herrera
Sen. Stuart Ingle
Sen. Gay G. Kernan
Rep. Tim D. Lewis
Sen. Linda M. Lopez
Rep. Javier Martínez
Rep. Rodolpho "Rudy" S. Martinez
Sen. Steven P. Neville
Rep. Greg Nibert

Sen. Peter Wirth
Rep. Martin R. Zamora

Rep. G. Andrés Romero
Rep. Patricia Roybal Caballero
Rep. Tomás E. Salazar
Rep. Debra M. Sariñana
Sen. William E. Sharer
Sen. John Arthur Smith

(Attendance dates are noted for members not present for the entire meeting.)

Staff
Shawna Casebier, Legislative Council Service (LCS)
Tom Kricka, LCS
Jeret Fleetwood, LCS
Sara Wiedmaier, LCS

Guests
The guest list is in the meeting file.

Handouts
Handouts and other written testimony are in the meeting file and on the New Mexico Legislature's website at www.nmlegis.gov.

Thursday, September 5

Welcome and Introductions
Senator Cervantes welcomed the committee and invited members of the committee and staff to introduce themselves.

Lynn Crawford, mayor, Village of Ruidoso, welcomed the committee to Ruidoso. He discussed water issues in eastern New Mexico, stating that Ruidoso has excellent water managers and is considered unique because the village uses a mix of surface water and ground water. He noted that last season was a banner year for the Ruidoso Downs Race Track and that this year has already exceeded last year's revenue.

Hydraulic Fracturing and the State of Oil and Gas Development in the Permian Basin
Kelly Tooker, director, Oil and Gas Technology, New Mexico Junior College; Jonathan Smith, global director of production enhancement, Halliburton; and Bill Brancard, general counsel, Energy, Minerals and Natural Resources Department (EMNRD), discussed oil and gas development in the Permian Basin.

Mr. Tooker presented an overview of the basics of hydraulic fracturing. He discussed well design and the chemical components of the fluid used, stating that there is approximately 0.1% of added chemicals in the fluid, the fluid does not enter the fresh water supply and the

majority of the added chemicals are found in everyday products. He explained the disposal process of produced water and the potential for induced seismicity, noting that the seismic activity observed in Oklahoma is a result of massive injections of produced water rather than the process of hydraulic fracturing itself and that in New Mexico, no seismic events have resulted from hydraulic fracturing.

Mr. Tooker provided a breakdown of New Mexico water usage by category, emphasizing that oil and gas operations account for less than 1.1% of overall water use in recent years and less than 2% today. Mr. Tooker emphasized the importance of hydraulic fracturing for oil and gas production in New Mexico and the United States, citing the energy crisis of the 1970s and decades of oil production decline that have been reversed because of innovations in hydraulic fracturing and horizontal drilling. He said that it is important to continue drilling wells because production from existing wells declines by about 15% every year.

Mr. Smith discussed the history, achievements and global footprint of Halliburton. He outlined the process of oil production and highlighted various technological advancements in hydraulic fracturing that have improved efficiency and safety and minimized environmental impact. He said that horizontal drilling technology has allowed companies to maximize oil and gas reservoir contact, and as a result, the United States has nearly doubled oil and gas production since 2005. He noted that up to 95% of new wells drilled now use hydraulic fracturing.

Mr. Brancard discussed the role of the Oil Conservation Division (OCD) of the EMNRD. He said that the OCD has a statutory duty to regulate oil and gas operations, water quality and produced water disposal wells under the Oil and Gas Act and the Water Quality Act. The Oil and Gas Act was initially enacted in response to the overproduction of oil under the "rule of capture", Mr. Brancard said, noting that over the years, duties have expanded beyond conservation of oil and gas to include oversight of wells, produced water and environmental regulations. He said that horizontal drilling and hydraulic fracturing advancements have increased oil and gas production in the past 10 years, that the productivity decline curve is much steeper in horizontal wells and that the OCD now receives many more drilling and injection permit applications. He noted the shift in water handling procedures with the advent of "midstream companies", which manage all water-related needs of oil and gas production. He said that an issue that has arisen with midstream companies is that multiple well applications often overlap and could possibly induce seismic activity. He stated that although the workload has increased, OCD full-time employee numbers have remained the same since 2016.

In response to questions from the committee, Mr. Tooker and Mr. Smith stated that:

- fracturing fluid uses very little fresh water, is pumped back up with produced water and is treated for reuse or disposed of safely and does not enter the fresh water supply;
- the net gain in the fresh water cycle is a result of chemical combustion of the hydrocarbons in the oil that releases water vapor into the atmosphere;

- oil in the Permian Basin is suitable for plastics manufacturing;
- the fractures themselves are about the width of a grain of sand;
- states are obligated to provide data to the national hydraulic fracturing chemical registry, FracFocus, which outlines all chemicals used in the fluid for each well currently in production;
- upon abandonment of an oil field site, Halliburton seeks to return the site's surface to its previous condition, although cement from drilled wells remains;
- the practice of horizontal drilling started about 20 years ago; and
- the majority of existing wells in New Mexico use hydraulic fracturing, and there has never been an incident of aquifer contamination.

In response to further questions, Mr. Brancard stated that:

- New Mexico is the third-largest oil and gas producer after Texas and Oklahoma;
- New Mexico was one of the first states to require disclosure to FracFocus of the chemicals used in hydraulic fracturing, but nondisclosure of "trade secrets" is a normal and accepted practice;
- New Mexico does not require baseline or post-production testing of aquifers for chemical contamination;
- it is false to claim that no seismic activity has occurred in the state as a result of injection wells because there was an incident north of Carlsbad; however, regulations have since improved and no other events have occurred;
- surface spills are the main concern in oil production and produced water disposal;
- the OCD is reorganizing to deal with increased workloads and staff shortages;
- horizontal drilling and pooling allow for less surface disturbance; and
- New Mexico disposal wells are usually 15,000 to 18,000 feet deep, which is much deeper than the average in Oklahoma and other states.

Produced Water and Water Midstream

Robert Huizenga, water resources manager-engineering, Cimarex Energy Co.; Michael Skarke, executive vice president, Water Infrastructure, Select Energy Services; Doug White, executive vice president, Water Solutions, NGL Energy Partners LP; Rebecca Roose, director, Water Protection Division, Department of Environment (NMED); and Brittany Fallon, conservation and legislative organizer, Rio Grande Chapter, Sierra Club, discussed opportunities and issues regarding produced water and water midstream.

Mr. Huizenga discussed the evolution of produced water recycling technology developed by Cimarex Energy Co. He cited predictions that annual consumption of water for hydraulic fracturing will continue to rise over the next decade and noted the increased use of produced water by oil and gas companies in New Mexico and the subsequent decline of fresh water use in operations. He listed some of the concerns regarding produced water reuse as well as the benefits of improved technologies, such as lower operational maintenance costs and reduced

environmental liability. He concluded by emphasizing that water reuse within the oil field is an evolving process.

Mr. White provided an overview of NGL Energy Partners LP, a full-service, diversified midstream company that provides transportation, storage, blending and marketing for energy producers and end users. He said that NGL has a diverse portfolio of assets across the country, including produced water injection wells, pipelines and recycling facilities; crude oil pipelines, storage and transload stations; propane and butane storage capacity; and refined products and renewable fuels terminals. He discussed various NGL initiatives and projects, such as a solar energy farm in Lea County and a partnership with New Mexico and Colorado research institutions to develop water technology. Mr. White outlined the company's wastewater midstream services; historical water and oil production levels in New Mexico and the Permian Basin; and potential water solutions for New Mexico and Texas. He highlighted NGL's recycling facility in Wyoming, which treats oil field wastewater to either a recyclable standard for reuse in hydraulic fracturing or to a discharge standard for return to the water cycle.

Mr. Skarke discussed work being done by Select Energy Services in the area of full-cycle water management and provided some background on the company and its impact in New Mexico. He said that the mission of Select is to provide environmentally conscious comprehensive water solutions for oil and gas operations in New Mexico, the Permian Basin and across the United States. Highlighting investment in water pipeline infrastructure, job creation, gross receipts tax revenue and environmental protection of public lands, Mr. Skarke emphasized Select's commitment to New Mexico. He discussed the evolution of the industry's approach to water use and the shift to comprehensive midstream companies. As oil and gas operations rapidly increased, he said, demand for water followed, which caused effective water management to become more crucial. He outlined the services covered by Select in providing full-cycle water management, including obtaining all necessary permits.

Ms. Roose provided a brief overview of the NMED's mission, foundation and leadership. The agency's mission is to protect and restore the environment in New Mexico for present and future generations. An important area of focus for the department has been produced water, she said. In 2018, New Mexico became the third-largest oil producing state, she said, and with this increase in oil production, there was an increase in the amount of produced water being generated. Ms. Roose said that produced water contains many salts and chemicals and is primarily disposed of through underground injection wells rather than by being recycled. She discussed House Bill 546 (2019), which enacted the Produced Water Act, and shared some of the key provisions that address this issue, such as encouraging the oil and gas industry to favor reuse and treatment options over reliance on fresh water and closing regulatory gaps to protect water quality.

Ms. Fallon discussed issues regarding the reuse of produced water. She noted that concerns over limited fresh water and an increase in seismic activity from wastewater injection wells has led to the need for alternative solutions and that companies are investigating recycling

options for produced water, both within and outside the oil fields. She said that the stance of the Sierra Club is that New Mexico is not ready to allow discharge of treated produced water outside of the oil field but that recycling within the oil field is viable as long as the potential for spills and leaks is eliminated. She suggested that under the oil and gas waste pit rule, New Mexico should reinstate certain requirements that were largely reversed by Governor Susana Martinez, such as lining wastewater pits to ensure adequate protection of ground water. For use outside of industry, Ms. Fallon listed some of the remaining concerns that will need to be addressed, such as the efficacy of current treatment technologies, the ability to detect potential chemicals, the toxicological risks to human health and the environment and the establishment of adequate water quality targets.

Responding to questions from the committee, the panelists stated that:

- one barrel of oil holds 42 gallons or 7,600 acre-feet;
- fresh water is still being used in oil and gas operations because the treatment of produced water is more expensive and requires significant infrastructure development in proximity to the operating site, but operators are transitioning;
- midstream companies get water from various sources, including industrial wastewater and fresh and brackish ground water;
- produced water can potentially be recycled indefinitely, as long as it is being adequately tested for contaminants;
- less than 25% of the potential chemicals in produced water are testable;
- the Office of the State Engineer coordinates with the NMED on water supply data and ensures that midstream companies are properly permitted;
- NGL has eight patents on its treatment technologies and has, over 10 years, successfully treated and discharged 2.6 billion gallons of produced water from oil and gas operations in Wyoming into the Colorado River, meeting United States Environmental Protection Agency standards;
- the industry is seeking to reduce the cost of wastewater reuse, but in areas such as the Permian Basin, the average water to oil ratio is 8:1, which makes the process costly;
- oil and gas companies do not disclose what chemicals are present in waste products, and discharge permits from the state require testing the waste products before recycling but not for injection into disposal wells;
- the chemical composition of produced water is difficult to determine in New Mexico because of the high salinity in the Permian Basin;
- in the Permian Basin, there is, on average, three times the amount of produced water generated than would be needed for operations;
- California has a food safety advisory board that oversees the use of treated wastewater for irrigation of crops, but wastewater use from hydraulic fracturing operations is still not permitted; and
- the Produced Water Act includes language that will ensure financial liability of the operator, and NGL supports increased bonding requirements.

Approval of Minutes

On a motion made, seconded and duly passed, the minutes of the July meeting were approved as submitted.

Methane Capture

Adrienne Sandoval, director, OCD, EMNRD; Sandra Ely, director, Environmental Protection Division, NMED; and Vanessa Ryan, co-chair, Methane Workgroup, New Mexico Oil and Gas Association (NMOGA), discussed methane emissions in the oil and natural gas industry and new technologies and strategies to mitigate waste.

Ms. Sandoval and Ms. Ely described the collaborative efforts of the NMED and the EMNRD to develop a regulatory framework for methane emissions to protect public health and the environment and to minimize waste. Ms. Ely provided some background on methane, the second most prevalent greenhouse gas emitted from human activities. She noted that in New Mexico, methane accounts for over 30% of greenhouse gas emissions, compared to only 10% nationally, and New Mexico lost approximately $10 million in revenues from vented or flared natural gas in 2018. The presenters outlined the roles of each department, stating that the NMED is responsible for mitigating pollution under the Air Quality Control Act and the EMNRD is responsible for mitigating waste of resources under the Oil and Gas Act. Ms. Sandoval showed a map of active oil and gas wells across the state and gave a breakdown of the various agencies that have regulatory authority over pollution and waste based on land designation.

Emphasizing the need for additional staff to enforce standards, Ms. Sandoval highlighted excessive emissions in Lea, Eddy and San Juan counties and increased crude oil production and venting and flaring of waste reported to the EMNRD. She said that both departments will seek to implement rules that achieve measurable reductions in methane emissions, create regulatory certainty, promote technological innovation and ensure compliance mechanisms. The Methane Advisory Panel (MAP) was formed to help inform this rulemaking process and focuses on regulating processes and equipment. Ms. Sandoval and Ms. Ely discussed the process of developing a statewide methane strategy, beginning with MAP findings, then incorporating stakeholder, tribal and public engagement and, finally, adopting rules.

Ms. Ryan discussed methane emissions in the oil and gas industry and stated that emissions have declined, despite an increase in oil and gas production in New Mexico, due to additional regulations in recent years. She said that the NMOGA was charged with monitoring emissions, which led to the creation of the Methane Workgroup. She explained fugitive emissions, various equipment components and the process of storing, transporting and controlling oil and gas. With the goal of reducing methane emissions from oil and gas operations, Ms. Ryan explained that the NMOGA supports an annual program of instrumented inspections on facilities, with certain exceptions; control requirements for emissions from tanks, with appropriate thresholds; phasing out continuous, high-bleed pneumatic controllers; and on-site best practices to limit emissions from unloading well liquids.

Responses to questions and comments from the committee included the following:

- flaring is the burning off of large quantities of built-up methane, whereas venting is the release of small amounts of unburned gas directly into the atmosphere;
- regulation of methane emissions should not be a one-size-fits-all approach, and the MAP intends to go after the largest emitters and avoid driving out smaller producers by plugging wells prematurely if they are still productive;
- pneumatic devices differ among operators, and larger, centralized oil and gas facilities typically have better controls;
- the MAP has authority over rulemaking and is developing a list of strategies related to different processes and equipment to mitigate methane emissions;
- the MAP is charged with regulating methane emissions from oil and gas activity but not from other sources;
- investment in new technologies and pipelines has reduced the need for flaring, but companies are still struggling to find a market for methane and to work with the state on right-of-way issues; and
- methane is not explicitly regulated but is encompassed under the regulation of volatile organic compounds.

State Land Office (SLO) Priorities and Bid Processes Changes

Sunalei Stewart, deputy commissioner of operations, SLO, provided an overview of the SLO and oil and gas leasing procedures and updated the committee on recent initiatives. Mr. Stewart described the SLO as the largest real estate company in the state, leasing state lands for a multitude of purposes, such as energy development, agriculture, affordable housing and recreational uses. The revenue from these leases benefits public schools, hospitals and charities across New Mexico, he said. He highlighted annual earnings for the Land Maintenance Fund and the Land Grant Permanent Funds, noting that fiscal year 2019 had the highest earnings on record due to increased production in the Permian Basin, and he provided a breakdown of revenue distribution.

Mr. Stewart listed some of the priorities of the SLO under Commissioner of Public Lands Stephanie Garcia Richard, including filling key department vacancies, advancing renewable energy projects, enhancing environmental and cultural protections and streamlining business operations. Some recent efforts and accomplishments of the SLO include a record $1.1 billion in earnings, establishment of the Office of Renewable Energy and a water bureau and a decrease in the vacancy rate from 22% to 10%. Mr. Stewart outlined the oil and gas leasing process, from identifying available land for leasing to holding a monthly lease sale. He explained that royalty rates are set by statute and remain in place for the duration of the lease, and he showed the breakdown of active leases by royalty rate. Mr. Stewart discussed the history of minimum bids and a new approach by the SLO to set minimum bids at an amount that ensures a fair value and incentivizes competitive bidding. He said that there is limited availability of state trust lands remaining for lease and showed the decline in total acres offered at oil and gas lease sales and the increase in the average price per acre over the past few years.

Responding to questions from committee members, Mr. Stewart stated that:

- the Office of Renewable Energy was established to focus on renewable energy projects and to address the issue of transmission of energy produced in the eastern side of the state to the western side, where it is exported out of state;
- royalty rates are established on a company-by-company basis;
- the maximum royalty rate in New Mexico is 20% and is set in statute, compared to Texas, which has a 25% rate;
- New Mexico has a competitive advantage over Texas in well depth limitations, but Texas does not have a property or gross receipts tax, whereas New Mexico has some of the highest taxes;
- 97% of state lands in the Permian Basin area are already leased;
- the majority of the $1.1 billion in earnings for fiscal year 2019 came from oil and gas revenues;
- royalty rates do not apply to lands leased for renewable energy projects; rates are based instead on production or a company's profits;
- the SLO considers subsurface pore space to be owned by the surface land owner;
- leasing of lands for renewable energy projects is time-consuming on the front end, but once approved, requires very little oversight;
- if the SLO is not allowed access to leased land or if the land is not being used for the intended purpose, the SLO will not renew the lease;
- the SLO has title records and maps available online that track land ownership;
- it is difficult to connect eastern New Mexico energy production to western New Mexico export stations because many residents do not want a transmission line in their backyards;
- it is difficult to construct a trans-state transmission line because of a checkerboard of different land ownership; and
- the main objective of the SLO is to generate revenue for public school districts.

Progress on Remediation of the Carlsbad Brine Well

Jim Griswold, chief, Environmental Bureau, OCD, EMNRD, updated the committee on the Carlsbad brine well remediation. Mr. Griswold stated that the OCD was tasked with reviewing brine wells after two wells collapsed in 2008, which led to the discovery of the Carlsbad brine well. This brine well poses a unique challenge compared to the two wells that collapsed because it is located in a populated area near homes, highways and the unlined Carlsbad Irrigation District canal. He explained that brine is created by injecting fresh water into underground salt layers, and the saltwater is then extracted for oil and gas operations, which results in caverns where the salt is dissolved and removed. Mr. Griswold discussed plans to remedy the situation by injecting grout into the voided spaces while simultaneously extracting brine. He explained the cavity filling process and risk management strategies as well as sources of funding, expenditures to date and the overall project status and time line, stating that injections will begin this November. In outlining projected budget costs and funding, Mr. Griswold said that there is an anticipated shortfall of over $8 million.

Responding to questions regarding the budget shortfall, Mr. Griswold said that the state procurement process resulted in three viable bids for the project and that the OCD chose the best option. He stated that certain costs, such as gross receipts taxes, were overlooked when the legislature allocated funds for remediation of the brine well and that the overall cost includes $4.7 million in contingency costs to cover risk and uncertainty. In response to another question by a committee member, Mr. Griswold said that the company that operated the brine well was liquidated.

Recess

The committee recessed at 4:30 p.m.

Friday, September 6

Reconvene

Senator Cervantes reconvened the meeting at 9:07 a.m.

Waste Isolation Pilot Plant (WIPP) Updates

Kirk Lachman, manager, Carlsbad Field Office, United States Department of Energy (DOE), and Stephanie Stringer, director, Resource Protection Division, NMED, updated the committee on WIPP. Mr. Lachman presented a brief history of his work experience with the DOE and underground waste operations. He noted recent accomplishments of WIPP, including attaining an average of eight to 10 shipments per week and over 15 million miles without a major incident. He discussed various capital improvement projects, such as a ventilation system and a road bypass, as well as smaller general plant projects and upgrades. Although the facility was considered to be state-of-the-art when it was built in the 1980s, Mr. Lachman said, WIPP must implement modern technologies to improve performance and safety. He emphasized continued support for WIPP by federal agencies, the state delegation and local officials, as well as good working relationships with regulatory agencies and increased engagement of stakeholders. He said that projected shipments will increase as a result of a new ventilation system being installed and that WIPP expects to receive shipments through 2050 and beyond. He discussed upcoming permit modification requests submitted to the NMED, a 10-year permit renewal application required under the National Environmental Policy Act and the repository's plans for additional storage of waste. He concluded by emphasizing the importance of WIPP to national security and the national cleanup mission.

Ms. Stringer provided a regulatory update on WIPP. She discussed a recent tour of WIPP by the NMED and stated that safety is a clear priority. She explained the geological significance of the site, located near Carlsbad, which is mined into the center of a 2,000-foot-thick salt bed below the earth's surface. She said that WIPP received its first shipment of transuranic waste from Los Alamos National Laboratory in 1999 and has received over 12,000 shipments since. She highlighted the dual regulatory authority of the NMED under the Hazardous Waste Act and the federal Resource Conservation and Recovery Act of 1976 (RCRA) and of the United States Environmental Protection Agency under the Radiation Protection Program. She said that the

main responsibilities of the NMED are to ensure compliance with existing rules; review and issue permit modifications and renewal applications; and observe, review and approve generator site audits. Sharing that WIPP only accepts waste from federal generator sites rather than commercial sites, Ms. Stringer enumerated the total waste shipments from sites across the country in past years. She noted some of the current WIPP permit modifications being processed by the NMED and the 10-year RCRA permit that is set to expire in 2020 and will need to be renewed.

Responding to questions from the committee, Mr. Lachman stated that:

- a large volume of excavated salt is stored in a permanent salt pile that is lined and covered with soil to prevent solvent dissolution back into the environment;
- regulations governing transuranic waste differ between contact- and remote-handled wastes; WIPP stores a variety of materials from gloves to steel that have come in contact with radioactive material;
- in response to the 2014 fire and subsequent release of radiation, WIPP implemented a more rigorous evaluation process involving radiography drones, air quality detectors, audits and additional quality assurance staff;
- WIPP complies with all United States Occupational Safety and Health Administration standards;
- WIPP employs geotechnical engineers to monitor soil contamination;
- uranium mill tailings and contamination in the Navajo Nation are not eligible for storage at WIPP because the uranium mines were commercial operations;
- WIPP has a low employee turnover rate but faces competition from the oil and gas industry because that industry offers better pay;
- WIPP is applying for a permit renewal because the facility has not reached its allowed capacity;
- audits of shipments occur at the source site to ensure safety from the start; and
- the DOE is not aware of any risk to WIPP of seismic activity from hydraulic fracturing in the area.

Holtec International's Proposed Consolidated Interim Storage Facility (CISF)

Ed Mayer, project manager, Holtec International, and John Buchser, chair, Water and Nuclear Waste Issues, Rio Grande Chapter, Sierra Club, discussed the CISF proposed by Holtec. Mr. Mayer provided an overview of the CISF for spent nuclear fuel, to be located in Eddy and Lea counties, and discussed the history, experience, technology and manufacturing capabilities of Holtec that make it the best company to take on construction and operation of the CISF. He highlighted features of Holtec's storage technology, site layout and project time line. He emphasized the national imperative under the federal Nuclear Waste Policy Act of 1982 to provide a repository for spent nuclear fuel. However, because the proposed Yucca Mountain Nuclear Waste Repository in Nevada never opened, he said, spent fuel is being stored at reactor sites, many of which are located near shorelines and densely populated areas. Mr. Mayer expressed confidence that the Holtec site will be safe, secure, retrievable and temporary and will

serve as a complement to a permanent repository, not as a replacement. He detailed the technology and plans for the transport of the nation's spent nuclear fuel, adding that transportation of radioactive material is strictly regulated by the United States Nuclear Regulatory Commission and the United States Department of Transportation. He highlighted financial benefits to New Mexico, the Nuclear Regulatory Commission licensing process and facility regulations and other federal, state and local licenses and permits required.

Mr. Buchser discussed concerns of the Sierra Club regarding the proposed CISF. He addressed the problem of managing nuclear waste, with reactors continuing to produce more waste and increasing on-site storage. He stated that storm intensity and variability have increased due to climate change; as a result, flooding is more frequent at reactor sites and poses the risk of water contamination if spent fuel is stored on-site. He said that the primary concern regarding the CISF is radiation leakage during transport of spent fuel across the country. He addressed issues concerning Holtec's design, a proposal to reprocess waste for future use and the legality of an interim storage facility when a permanent repository location has yet to be decided. He suggested that the state focus its efforts on renewable energy technologies, battery storage and improving the electric grid as ways to mitigate proliferation of nuclear waste. He suggested that the United States delay the ultimate disposition of nuclear waste for as long as possible, as scientific research is still evolving, and he noted that both Sandia National Laboratories and Los Alamos National Laboratory conduct research on nuclear waste challenges and that the University of New Mexico has a nuclear engineering program that will assist in finding a solution.

Responding to questions from committee members, Mr. Mayer stated that:

- the Yucca Mountain Nuclear Waste Repository is not open and that interim storage could be a 30- to 50-year or longer time span;
- current on-site storage is risky and cost-intensive;
- local first responders in the area of the proposed CISF are undergoing training and are confident in their ability to respond to an accident;
- Holtec is focusing on outreach to local farmers, ranchers and community members to educate the public about safety and security measures being taken;
- shipments will come from all over the United States;
- a decommissioning fund has been set aside in the event that another company takes over operations from Holtec or to cover the costs of any remediation;
- testing is done before transport to ensure that there are no leaks, and each train will have security guards and radiologists working to ensure safety during transport;
- there are no nuclear reprocessing plants in the United States, but there is one in France;
- if the NMED does not approve Holtec's permit applications, the alternative site being proposed across the border in Texas would actually be in closer proximity to New Mexico communities; New Mexico would still be required to provide first responders, although Texas would gain the economic benefits;

- any potential seismic activity from oil and gas operations in the area would be nowhere near the intensity of the testing done on the storage containers; and
- Carlsbad and Hobbs and Eddy and Lea counties have passed resolutions in support of the Holtec CISF.

Adjournment

There being no further business, the committee adjourned at 11:56 a.m.