

**NEW MEXICO STATE LEGISLATURE  
RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE**

**2007  
INTERIM REPORT**



December 2007

New Mexico Legislative Council Service  
411 State Capitol  
Santa Fe, New Mexico

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## Work Summary

**2007 WORK SUMMARY**  
**for the**  
**RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE**

During the 2007 interim, the Radioactive and Hazardous Materials Committee (RHMC) gathered information and heard testimony on numerous issues related to the environment and New Mexico's energy future.

In July, the committee held a meeting with a focus on exploring alternatives for future electricity generation, transportation fuel and energy management within the context of tackling energy security, energy independence and climate change. The committee looked at challenges to the U.S. and New Mexico energy systems, including dependence on foreign oil and global warming, and reviewed viable energy alternatives, such as coal and nuclear and renewable energy. The committee also examined the energy policy initiatives of the executive and the regulatory role of the Public Regulation Commission. In August, the RHMC held a joint meeting with the Los Alamos National Laboratory (LANL) Oversight Committee to receive an update on the state's and LANL's progress in cleaning up contaminated sites at the lab as required by a federal consent order. The committees also addressed issues related to LANL's ground water and surface water monitoring project, ground water chromium contamination from LANL activities and the impacts of federal budget cuts on LANL and the northern New Mexico economy.

In September, the RHMC traveled to Carlsbad and focused heavily on issues related to nuclear energy and waste disposal. The committee received an update from the Waste Isolation Pilot Plant (WIPP) and the National Enrichment Facility (NEF) and discussed issues surrounding the disposal of greater-than-class-C (GTCC) low-level radioactive waste. The RHMC also examined the potential benefits of nuclear energy as an energy alternative and heard extensive testimony on the Global Nuclear Energy Partnership. In addition, the committee looked at the development of renewable transportation fuels and a project to convert algae to biodiesel. In October, the committee held a meeting in Grants to study reclamation and cleanup of previous uranium mining sites, the health impacts of uranium mining, current uranium mining exploration and the planned resumption of uranium mining in northwest New Mexico. The committee received extensive testimony from state regulators, tribal regulators, the uranium mining industry, tribal officials and community advocates. RHMC members also toured uranium mining sites in the Grants area.

At its final meeting in November, the RHMC received additional testimony on energy issues, including solar electricity generation, nuclear fuel reprocessing and plug-in hybrid vehicle technology. The committee planned to consider amendments presented by the New Mexico Department of Environment (NMED) to the Hazardous Waste Act and the Ground Water Protection Act to meet new requirements in the 2005 federal Energy Policy Act; however, the NMED has decided not to present a bill in the upcoming session. Rather, the committee considered and endorsed a bill that creates revenue sources to fund uranium legacy cleanup activities and a memorial supporting an expanded role for WIPP in the storage of GTCC low-level radioactive waste.

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## Work Plan, Meeting Schedule & Budget

**2007 APPROVED**  
**WORK PLAN, MEETING SCHEDULE AND BUDGET**  
**for the**  
**RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE**

**Committee Members**

Rep. John A. Heaton, Chair  
Sen. Richard C. Martinez, Vice Chair  
Sen. Vernon D. Asbill  
Rep. William J. Gray  
Sen. John T.L. Grubestic  
Rep. Manuel G. Herrera

Sen. Gay G. Kernan  
Sen. Carroll H. Leavell  
Rep. Antonio Lujan  
Rep. Jim R. Trujillo  
Rep. Jeannette O. Wallace

**Advisory Members**

Rep. Thomas A. Anderson  
Rep. Donald E. Bratton  
Sen. Mary Jane M. Garcia  
Sen. Rod Adair  
Sen. William H. Payne

Sen. John Pinto  
Rep. Nick L. Salazar  
Rep. Jeff Steinborn  
Rep. Peter Wirth

**History**

The Radioactive and Hazardous Materials Committee was created in 1979 by statute, Section 74-4A-9 NMSA 1978, to provide a means of coordinating information exchange and develop appropriate state actions in relation to the Waste Isolation Pilot Plant (WIPP) near Carlsbad. The name of the committee was changed in 1983 and again in 1986 to more accurately reflect the scope of the committee's work, which was broadened by the legislature in 1981, 1986 and 1991.

Over the years, the Radioactive and Hazardous Materials Committee's scope has expanded to include a variety of subject matter relating to the environment. In addition to hearing testimony on the progress and status of WIPP, the committee has assumed a major role in the legislative oversight of the New Mexico Department of Environment's (NMED) regulatory actions and the handling, disposal and cleanup of hazardous materials at federal facilities in New Mexico. It also has received extensive testimony from governmental entities, private industry groups and concerned citizens on other environmental issues such as air and water quality, ground water quality, solid waste and mining and mine safety.

**Work Plan**

During the 2007 interim, the Radioactive and Hazardous Materials Committee will gather information and hear testimony on the areas of focus adopted by the Legislative Council for the committee as well as other environmental issues. With regard to the areas of focus, the committee plans to examine uranium mining in New Mexico and the development of nuclear energy, including the potential benefits of nuclear energy as a clean energy alternative and the

potential harm from waste produced by uranium mining to the environment and public health; review developing issues related to NMED's intention to assume primacy over the federal Environmental Protection Agency's national pollutant discharge elimination system; and, in coordination with the Los Alamos National Laboratory (LANL) Oversight Committee, monitor implementation of the federal consent order on environmental remediation and cleanup at LANL.

As a follow-up to its direction from the Legislative Council to study the potential benefits and potential harm associated with nuclear-generated power, the committee will examine alternatives for future electricity generation and their environmental and health impacts. The committee also plans to hear testimony from NMED and the Energy, Minerals and Natural Resources Department on the executive's efforts to improve air quality and administer energy-efficient programs.

Additionally, the committee will review the strategic plan for the federal Global Nuclear Energy Partnership and gather information on emerging nuclear waste management technologies. Finally, the committee intends to hear testimony from officials at WIPP and NMED on the status of remote-handled transuranic waste shipments; receive a status report from Louisiana Energy Services on the construction of its uranium-enrichment plant near Hobbs; and review the budget and legislative initiatives of NMED, including proposed changes to the Hazardous Waste Act and the Ground Water Protection Act to meet new requirements in the 2005 federal Energy Policy Act.

If needed, the committee plans to develop appropriate legislation for the 2008 legislative session.

## **2007 APPROVED MEETING SCHEDULE AND BUDGET**

| <b><u>Date</u></b> | <b><u>Location</u></b>   |
|--------------------|--|
| June 11            | Santa Fe   |
| July 12-13         | Santa Fe   |
| August 27          | Los Alamos<br><i>(Joint meeting with the LANL Oversight Committee)</i> |
| September 20-21    | Carlsbad   |
| October 30*        | Grants   |
| November 26        | Santa Fe   |

\*Meeting date originally approved by the Legislative Council was October 4.

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Agendas

Revised: June 8, 2007

**TENTATIVE AGENDA**  
**for the**  
**RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE**

**June 11, 2007**  
**Room 307, State Capitol**

**Monday, June 11**

- 10:00 a.m.           **Call to Order**  
—Representative John A. Heaton, Chair
- Department of Environment: Update**  
—Ron Curry, Secretary of Environment (invited)
- 11:30 a.m.           **Lunch**
- 1:00 p.m.            **Energy, Minerals and Natural Resources Department: Update**  
—Joanna Prukop, Secretary of Energy, Minerals and Natural Resources
- 2:30 p.m.            **Development of 2007 Interim Work Plan, Meeting Schedule and Budget**
- 3:00 p.m.            **Public Comment**
- Adjourn**

Revised: July 13, 2007

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

**July 12-13, 2007  
Room 307, State Capitol  
Santa Fe**

**Thursday, July 12 — Tackling Energy Independence, Energy Security and Climate Change: Exploring Alternatives for Future Electricity Generation and Energy Management**

- 9:00 a.m.           **Call to Order**  
—Representative John A. Heaton, Chair
- 9:05 a.m.           **A State Energy Strategy: Why the Time Is Now**  
—Kate Marks, Energy Program Manager, National Conference of State Legislatures
- 10:00 a.m.           **Climate Change and Its Impacts on New Mexico**  
—David S. Gutzler, Professor, Earth and Planetary Sciences, University of  
New Mexico  
—Jim Norton, Director, Environmental Protection Division, New Mexico  
Department of Environment
- 11:30 a.m.           **Lunch**
- 1:00 p.m.           **Renewable Energy Resource and Technology Opportunities**  
—Roger Taylor, Group Manager for State, Local and Tribal Integrated  
Applications, National Renewable Energy Laboratory
- 2:00 p.m.           **Fossil Energy and Technology**  
—Ron Broadhead, Principal Senior Petroleum Geologist, New Mexico  
Tech  
—George Guthrie, Program Director, Office of Fossil Energy and  
Environment, Los Alamos National Laboratory
- 3:00 p.m.           **Nuclear Energy 2007: A Status Report**  
—Marshall Cohen, Senior Director of Legislative Programs, Nuclear  
Energy Institute

4:00 p.m.            **Recess**

**Friday, July 13 — New Mexico's Energy Future: Corporate Action, Organization Action and State Policy**

9:00 a.m.            **Call to Order**  
—Representative John A. Heaton, Chair

**Energy Efficiency as a Resource**  
—Gail Ryba, New Mexico Representative, Southwest Energy Efficiency Project

10:00 a.m.            **Challenges of the Changing Energy Era: A Utility's Perspective**  
—Art Hull, PNM  
—Mike D'Antonio, PNM

10:45 a.m.            **Sustainable Energy for New Mexico's Future**  
—Ned Farquhar, Mountain West Energy/Climate Advocate, Natural Resources Defense Council

11:30 a.m.            **Lunch**

1:00 p.m.            **New Mexico Climate Change Advisory Group: Report and Implementation of Recommendations**  
—Sandra Ely, Environment and Energy Policy Coordinator, New Mexico Department of Environment

2:00 p.m.            **Energy in New Mexico: Trends, Visions and Opportunities**  
—Sarah Cottrell, Energy and Environment Policy Advisor, Office of the Governor  
—Craig O'Hare, Special Assistant for Renewable Energy, New Mexico Energy, Minerals and Natural Resources Department

3:00 p.m.            **Regulatory Oversight of New Mexico's Energy Industry**  
—Jason Marks, Vice Chair, Public Regulation Commission  
—Sandy Jones, Commissioner, Public Regulation Commission

4:00 p.m.            **Public Comment**

**Adjourn**

**TENTATIVE AGENDA**  
**for the**  
**JOINT MEETING**  
**of the**  
**LOS ALAMOS NATIONAL LABORATORY OVERSIGHT COMMITTEE**  
**and**  
**RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE**

**August 27, 2007**  
**Main Conference Center Room 203, Los Alamos Research Park**  
**Los Alamos**

**Monday, August 27**

- 10:00 a.m.           **Call to Order**  
—Representative Roberto "Bobby" J. Gonzales, Co-Chair Los Alamos National Laboratory (LANL) Oversight Committee  
—Senator Phil A. Griego, Co-Chair, LANL Oversight Committee  
—Representative John A. Heaton, Chair, Radioactive and Hazardous Materials Committee
- 10:05 a.m.           **Environmental Program Overview and Update on Consent Order Compliance: LANL**  
—Susan G. Stiger, Associate Director for Environmental Programs, LANL
- 11:00 a.m.           **Update on Consent Order Compliance: New Mexico Department of Environment (NMED)**  
—James Bearzi, Chief, Hazardous Waste Bureau, NMED
- 12:00 noon           **Working Lunch**  
**LANL Ground Water Protection Program**  
—Danny Katzman, Water Stewardship Program Manager, LANL
- 1:00 p.m.            **Status of WIPP Shipments**  
—Gerald O'Leary, Transuranic Waste Disposition Program Director, LANL
- 1:30 p.m.            **Update on Consent Order Compliance: Sandia National Laboratories**  
—Fran Nimick, Sandia National Laboratories  
—James Bearzi, Chief, Hazardous Waste Bureau, NMED
- 2:30 p.m.            **Federal Resource Conservation and Recovery Act (RCRA) Permit Update: LANL and Sandia National Laboratories**  
—James Bearzi, Chief, Hazardous Waste Bureau, NMED

3:30 p.m.

**LANL and the Northern New Mexico Economy**  
—Joe Maestas, Mayor, City of Española

4:00 p.m.

**Public Comment**

**Adjourn**

Revised: September 18, 2007

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

**September 20-21, 2007  
Carlsbad Environmental Monitoring and Research Center  
Carlsbad, New Mexico**

**Thursday, September 20**

- 10:00 a.m.           **Call to Order**  
—Representative John A. Heaton, Chair
- Welcome**  
—Bob Forrest, Mayor, City of Carlsbad
- 10:15 a.m.           **Waste Isolation Pilot Project (WIPP): Status, Permits, Updates**  
—Roger Nelson, Chief Scientist, WIPP  
—James Bearzi, Chief, Hazardous Waste Bureau, New Mexico  
                          Department of Environment (NMED)
- 11:15 a.m.           **National Enrichment Facility Status: Report from Louisiana Energy  
Services (LES)**  
—Clint Williamson, Vice President for Government Affairs, LES
- 12:00 noon           **Lunch**
- 1:00 p.m.            **Disposal of Greater-Than-Class-C Low-Level Radioactive Waste  
(GTCC)**  
—James Joyce, Document Manager, GTCC Environmental Impact  
                          Statement, United States Department of Energy
- 2:00 p.m.            **The Global Nuclear Energy Partnership: Review and Report on Site  
Characterization and Environmental Impact Statement**  
—Dr. David Kessel, Manager, Carlsbad Programs, Sandia National  
                          Laboratories  
—Rick Wallace, Safeguard Systems Group Leader, Los Alamos National  
                          Laboratory  
—Dr. Mark Turnbough, Principal Investigator, Eddy-Lea Energy Alliance

3:30 p.m.                    **Carlsbad Environmental Monitoring and Research Center: Report**  
—Jim Conca, Director, Carlsbad Environmental Monitoring and Research  
Center

4:15 p.m.                    **Public Comment**

**Recess**

**Friday, September 21**

9:00 a.m.                    **Call to Order**  
—Representative John A. Heaton, Chair

**Petroleum Storage Tank Requirements Imposed by the Federal  
Energy Policy Act of 2005: Legislative Proposal**  
—Jim Davis, Chief, Petroleum Storage Tank Bureau, NMED  
—Ruben Baca, Executive Director, New Mexico Petroleum Marketers  
Association

10:00 a.m.                    **Renewable Transportation Fuels**  
—Charles Bensinger, Renewable Energy Partners of New Mexico

10:45 a.m.                    **The Algae Biodiesel Project: Report**  
—Doug Lynn, Interim Executive Director, Center of Excellence for  
Hazardous Materials Management

11:30 a.m.                    **Potash Solution Mining**  
—Randy Foote, General Manager, Intrepid Potash - New Mexico, LLC  
—Steve McCutcheon, Manager of Administration, Intrepid Potash - New  
Mexico, LLC

12:15 p.m.                    **Public Comment**

**Adjourn**

Revised: October 26, 2007

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

**October 29, 2007  
Cibola County Convention Center  
515 West High Street  
Grants, New Mexico**

**October 30, 2007  
Tour of Uranium Mining Sites  
Grants, New Mexico**

**Monday, October 29**

10:00 a.m.

**Call to Order**

—Representative John A. Heaton, Chair

**Welcome**

—Joe Murrietta, Mayor, City of Grants

10:15 a.m.

**Uranium Mining Legacy, Regulation and Cleanup: Past, Present and Future**

—John Goldstein, Director, Water and Waste Management Division,  
Department of Environment

—Bill Brancard, Director, Mining and Minerals Division, Energy,  
Minerals and Natural Resources Department

—Stephen B. Etsitty, Executive Director, Navajo Nation Environmental  
Protection Agency

11:15 a.m.

**Uranium Mining Industry Update:**

• **Introduction**

—George Byers, Vice President of Public Affairs and Communications,  
Neutron Energy, Inc.

• **The Future of Uranium Mining in New Mexico**

—Rick Van Horn, Executive Vice President and Chief Operating Officer,  
Uranium Resources, Inc.

• **Environmental and Health Issues Related to Uranium Mining and Radioactivity**

—Douglas B. Chambers, Ph.D., Executive Vice President, SENES  
Consultants Limited

• **Mine Safety Standards**

—Paul Pierce, Manager of Mine Development, Uranium Energy Corp.

12:00 noon

**Working Lunch**



Revised: November 19, 2007

**TENTATIVE AGENDA  
for the  
SIXTH MEETING  
of the  
RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE**

**November 26, 2007  
Room 321, State Capitol  
Santa Fe**

**Monday, November 26**

- 9:00 a.m.           **Call to Order**  
—Representative John A. Heaton, Chair
- 9:15 a.m.           **Recommendations of the Clean and Diversified Energy Advisory  
Committee to the Western Governors**  
—Sarah Cottrell, Energy and Environment Policy Advisor, Office of the  
Governor
- 10:00 a.m.           **Solar Electricity Generation**  
—Dr. Thomas Mancini, Concentrating Solar Power Program Manager,  
Sandia National Laboratories
- 11:00 a.m.           **Plug-In Hybrid Cars**  
—Roger Duncan, Deputy General Manager, Austin Energy
- 12:00 noon           **Working Lunch**
- 12:30 p.m.           **Consideration of Legislation**
- 1:00 p.m.           **Nuclear Fuel Reprocessing Overview**  
—Sara Scott, Los Alamos National Laboratory
- 3:00 p.m.           **Public Comment**
- Adjourn**

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## Minutes

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

**June 11, 2007  
Room 307, State Capitol  
Santa Fe**

The first meeting of the radioactive and hazardous materials committee was called to order by Representative John A. Heaton, chair, on June 11, 2007 at 10:10 a.m. in Room 307 of the State Capitol in Santa Fe.

**Present**

Rep. John A. Heaton, Chair  
Sen. Richard C. Martinez, Vice Chair  
Rep. William J. Gray  
Sen. John T.L. Grubestic  
Sen. Gay G. Kernan  
Rep. Antonio Lujan  
Rep. Jim R. Trujillo  
Rep. Jeannette O. Wallace

**Absent**

Sen. Vernon D. Asbill  
Rep. Manuel G. Herrera  
Sen. Carroll H. Leavell

**Advisory Members**

Sen. Rod Adair  
Rep. Donald E. Bratton  
Sen. John Pinto  
Rep. Nick L. Salazar

Rep. Thomas A. Anderson  
Sen. Mary Jane M. Garcia  
Sen. William H. Payne  
Rep. Jeff Steinborn  
Rep. Peter Wirth

**Staff**

Evan Blackstone  
Jeret Fleetwood  
Randi Johnson

**Guests**

The guest list is in the original meeting file.

**Committee Business**

Representative Heaton began the meeting by welcoming members of the public and having the committee members and staff introduce themselves. Representative Heaton then explained that he believes that during the interim, the committee should develop positions as to where the state should be moving with regard to energy policy. He indicated that the committee should address energy issues within the context of the challenges of climate change and achieving energy independence and energy security. Representative Heaton also noted that the

committee needs to study the budgets of the New Mexico department of environment (NMED) and the energy, minerals and natural resources department (EMNRD) in order to understand the budget needs and the reconciliation process between executive and legislative budgets.

### **NMED: Update**

Jon Goldstein, director of the NMED's water and waste management division, and Jim Norton, director of the NMED's environmental protection division, began by informing the committee that Ron Curry, secretary of environment, and Cindy Padilla, deputy secretary of environment, unfortunately would not be able to appear before the committee due to conflicts.

Mr. Goldstein stated that the 2007 legislative session was successful for the NMED and he went on to review legislation affecting the NMED that passed during the session. He briefly summarized for the committee a few of the key bills that became law, including the Surface Owners Protection Act, a near doubling of the renewable energy portfolio standard and increased mercury emission controls. Mr. Goldstein also pointed out that the governor included in the NMED's budget \$3.3 million for river ecosystem restoration.

Mr. Goldstein reviewed a few of the major areas the NMED is addressing in 2007. First, he discussed New Mexico's involvement in the Rocky Mountain Low-Level Radioactive Waste Compact. He explained that Secretary Curry is currently chair of the Rocky Mountain low-level radioactive waste board and that the board will have some oversight over the transport of waste from the uranium enrichment facility run by Louisiana energy services (LES). Mr. Goldstein noted that the agreement between New Mexico and LES dictates that the waste generated by the facility must be transferred out of the state. Uranium mining is another important issue affecting the state that the NMED partially regulates. Mr. Goldstein discussed the NMED's involvement in uranium mining and stated that NMED and EMNRD officials recently toured uranium mining sites in the Grants area. Additionally, Mr. Goldstein informed the committee that the NMED will continue its role as an enforcement authority pursuant to a federal consent order in the cleanup of contaminated sites at Los Alamos national laboratory. In closing, Mr. Goldstein highlighted for the committee a major legislative priority for the NMED in the 2008 legislative session. He explained that changes to the federal Energy Policy Act require changes to be made at the state level regarding standards for petroleum storage tanks. The changes require amendments to the Water Quality Act and the Hazardous Waste Act. Mr. Norton informed the committee that the NMED has convened a stakeholder group to develop and review legislation.

Mr. Norton then discussed climate change with the committee. He explained that the climate change study group appointed by the governor recently made 69 recommendations, 67 of which were unanimous, for reducing greenhouse gas (GHG) emissions in New Mexico. Mr. Norton went on to note that while some of the recommendations were already being implemented, other recommendations addressed emission reduction standards that would take longer to implement. He also explained that New Mexico is part of a regional initiative to reduce GHG emissions. Finally, Mr. Norton informed the committee that the three biggest sources of GHG emissions in New Mexico are coal-fired power plants, carbon dioxide from the production of oil and gas, and transportation vehicles. He indicated that the governor's goal is to reduce in GHG emissions to 75% of 2000 levels by 2050.

Questions and comments included:

- emission reduction goals for New Mexico;
- cap and trade agreements and their mechanics;
- current standards in place for underground petroleum storage tanks;
- percentage of stations in the state that are faced with the cost of complying with new petroleum storage tank standards;
- whether emission standards for New Mexico companies places them at a disadvantage when competing against companies from China and India;
- burden placed on rural areas by the NMED fees and rules relating to septic tanks;
- nuclear power and the reduction of GHG emissions;
- a proposed NMED rule relating to reporting of GHG emissions; and
- the danger of the legislature delegating authority to a bureaucracy to implement rules and the need for continued legislative oversight.

### **Committee Business — Interim Work Plan and Meeting Schedule**

The committee developed a work plan and meeting schedule. The committee reviewed a draft work plan and Representative Heaton reminded the committee of its statutory duties. The committee members offered input on topics the committee should consider during the interim. Members reviewed the meeting dates and some members advocated changing the proposed October meeting date due to conflicts. Representative Heaton also asked the committee to allow him to work with staff to develop a work plan that would take testimony from experts regarding energy issues.

On a motion made and seconded, the committee approved the meeting dates with the exception of the proposed October meeting date. The committee authorized Representative Heaton to work with staff to develop a work plan and an alternative October meeting date.

### **EMNRD: Update**

Joanna Prukop, secretary of energy, minerals and natural resources, provided the committee with an update regarding the work of the EMNRD. Secretary Prukop began her presentation by summarizing the legislation that affected or was of interest to the EMNRD during the 2007 legislative session. She emphasized that the session was extremely productive and that the legislature should be commended for adopting a comprehensive clean energy agenda. Specifically, Secretary Prukop discussed the establishment of the nation's first renewable energy transmission authority, the passage of amendments to the renewable energy production tax credit that make it more accessible to renewable energy project developers, an increase in the renewable portfolio standard and the establishment of sustainable building tax credits.

Next, Secretary Prukop reviewed Governor Richardson's executive orders relating to clean energy. She explained that the orders established greenhouse gas reduction targets, required the use of renewable fuels in state government vehicles, developed standards for energy-efficient "green buildings" to be used by state government and public schools and created a market-based GHG gas emission registry and reduction program.

Secretary Prukop also reviewed for the committee the increased efforts of the oil conservation division (OCD) of the EMNRD to enforce compliance with the Oil and Gas Act and the rules associated with it. She explained that previous administrations entered into few compliance orders with oil and gas operators and collected relatively small amounts in penalties, but that both orders and penalty collections have increased dramatically under Governor Richardson.

Finally, Secretary Prukop outlined the EMNRD's involvement with uranium mining. She explained that the Mining and Minerals Division (MMD) of the EMNRD regulates hard-rock mines in the state, including uranium mines. She noted that while there are no uranium mines of any sort currently operating in New Mexico, there has recently been a resurgence in uranium mining activity elsewhere due to a dramatic increase in the price of uranium. Secretary Prukop informed the committee that the EMNRD has approved some permits to conduct exploration activities. She concluded by discussing some of the concerns associated with uranium mining activities in New Mexico and the challenges it would present for the EMNRD.

Questions and comments included:

- whether technology to develop wood pellets as a fuel source would qualify for the energy innovation fund;
- a biodiesel project using algae;
- location of uranium deposits on Native American land in northwestern New Mexico and the EMNRD's jurisdiction;
- reclamation of old uranium mines;
- uses of produced water from oil and gas mines;
- OCD fines for noncompliant oil and gas operators;
- the Pecos river canyon master plan process;
- the EMNRD's focus on the renewable energy transmission authority
- power pool agreements; and
- mine reclamation efforts and related water contamination.

There being no further business, the committee adjourned at 2:40 p.m.

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

**July 12-13, 2007  
Room 307, State Capitol  
Santa Fe**

The second meeting of the Radioactive and Hazardous Materials Committee was called to order by Representative John A. Heaton, chair, on July 12, 2007, at 9:10 a.m. in Room 307 of the State Capitol in Santa Fe.

**Present**

Rep. John A. Heaton, Chair  
Sen. Richard C. Martinez, Vice Chair  
Sen. Vernon D. Asbill  
Rep. William J. Gray  
Sen. John T.L. Grubestic  
Sen. Carroll H. Leavell  
Rep. Antonio Lujan  
Rep. Jim R. Trujillo  
Rep. Jeannette O. Wallace (July 12)

**Absent**

Rep. Manuel G. Herrera  
Sen. Gay G. Kernan

**Advisory Members**

Sen. Rod Adair  
Rep. Thomas A. Anderson  
Rep. Nick L. Salazar  
Rep. Jeff Steinborn (July 13)  
Rep. Peter Wirth

Rep. Donald E. Bratton  
Sen. Mary Jane M. Garcia  
Sen. William H. Payne  
Sen. John Pinto

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

**Staff**

Evan Blackstone  
Jeret Fleetwood  
Randi Johnson

**Guests**

The guest list is in the original meeting file.

**Thursday, July 12**

**Committee Business**

Representative Heaton began the meeting by noting that he believes there are three major issues currently facing the United States: energy independence, health care and the loss of intellectual human assets. He explained that the United States and New Mexico need to solve energy problems within the context of energy independence, climate change and energy security.

Representative Heaton went on to have members of the committee and staff introduce themselves to the audience.

**A State Energy Strategy: Why the Time Is Now**

Kate Marks, Energy Program manager for the National Conference of State Legislatures (NCSL), provided the committee with testimony regarding development of a state energy strategy. She explained that global demand for energy resources, particularly coal, natural gas and oil, has increased dramatically over the past decade. She noted that the United States is facing competition from large energy-consuming nations such as China and India and that increased demand and competition for energy resources will drive prices for those resources even higher in what are already regarded as volatile markets. Ms. Marks also reviewed global population growth projections for the next 20 years. The time is now, Ms. Marks emphasized, for the U.S. and New Mexico to think strategically about how their energy is produced and used.

Ms. Marks also discussed global energy supply and infrastructure. She provided the committee with data that show that oil and gas remain the world's primary energy sources, that coal and gas lead power generation growth and that world coal prices are on the rise. Natural gas prices, on the other hand, are unstable given dramatic changes in gas supply. She went on to inform the committee that transportation oil consumption in the U.S. is projected to rise significantly, but domestic oil production is projected not to increase. Ms. Marks noted that the U.S. is witnessing historic ethanol fuel demand and corn prices have doubled as a result.

Ms. Marks then discussed renewable energy resources, such as solar, wind, biomass and geothermal. She began by showing which parts of the U.S. exhibit the most potential for each of those types of renewable energy, pointing out that New Mexico is well positioned to develop wind and solar energy while still showing some potential for biomass and geothermal energies as well. Ms. Marks also touted energy efficiency as another large energy resource, noting that conservation efforts in the U.S. since 1973 have helped significantly to reduce consumption.

Finally, Ms. Marks discussed the use of a synthetic fuel blend in planes used by the U.S. Air Force. She explained that the Air Force is the largest energy consumer in the federal government and that it has actively sought methods of reducing its consumption of oil resources. Ms. Marks noted that the Air Force has developed a synthetic fuel blend, derived from natural gas using the Fischer-Tropsch process, and tested it extensively in its planes. She noted that the Air Force has even set a goal of having its entire fleet certified to use the synthetic fuel blend by 2011. Ms. Marks went on to discuss worldwide production of Fischer-Tropsch fuels and noted potential benefits of increased use of synthetic fuels.

Questions and comments included:

- development of more efficient automobiles in China;
- development and use of synthetic fuel for applications outside the military;
- emissions problems with coal to liquid fuels;
- stress on energy transmission lines as a component of energy security issues;
- importance of public education in moving toward more efficient use of energy;
- existing capacity of U.S. oil reserves; and
- possible action at the federal level to increase taxes on fuels as a method to stem energy consumption.

### **Climate Change and Its Impacts on New Mexico**

Dr. David Gutzler, professor of earth and planetary sciences at the University of New Mexico, provided the committee with testimony regarding climate change in New Mexico. He explained that significant warming trends have been observed across the state and noted that scientists can confidently predict that additional warming will continue. Dr. Gutzler provided the committee with data on late twentieth century temperature trends in southern New Mexico and twentieth century regional temperature changes and predicted twenty-first century temperatures statewide. He went on to inform the committee of how increasingly warm temperatures would affect New Mexico's rainfall, snowpack and soil moisture, noting that the area where less snowpack and drier soil would be most pronounced is northwestern New Mexico. He emphasized that predicted climate change will likely present water management challenges throughout much of the western U.S.

Dr. Gutzler concluded by noting that warmer temperatures will lead to higher rates of water consumption, reduced snowpack, more evaporation of open water and drier soil. He also pointed out that while prediction of precipitation trends are less certain than warmer temperatures, recent simulations suggest that there could be less annual precipitation and that the periodic cycle of droughts and wet spells could become more extreme in the future.

Jim Norton, director of the Environmental Protection Division of the New Mexico Department of Environment (NMED), provided the committee with testimony regarding New Mexico's greenhouse gas (GHG) emissions inventory. He explained that an executive order by Governor Richardson requires an inventory of GHG emissions in New Mexico. Mr. Norton went on to note that, on a per capita basis, New Mexico produces twice the national average of GHG emissions, pointing out that the largest emitters in New Mexico are electricity generators, the fossil fuel industry and transportation. He also stated that GHG emissions are predicted to grow in New Mexico to 23 percent above 2000 levels by 2020 and that New Mexico emits more GHG than 164 nations.

Brad Musick, environmental analyst for NMED's Air Quality Bureau, discussed potential effects of climate change on New Mexico, indicating that projected climate change is an average of six to 12 degrees warmer. Other projected changes include more episodes of extreme heat, fewer episodes of extreme cold, more intense storm events and higher evaporation rates. Mr.

Musick went on to review the potential effects of climate change on New Mexico's infrastructure, agricultural industry, ecosystems, wildlife, environmental quality and health of its citizens.

Questions and comments included:

- whether climate change is part of a larger cycle of weather and climate patterns or really catastrophic in nature;
- world population growth as a factor that leads to global warming;
- the necessity of long-term planning to combat climate change;
- the shift in drought and precipitation patterns in southern and northern New Mexico;
- the relationship between diminished snowpack and dry soil;
- a possible link between coal-fired power plant production and water increases in temperature;
- the local effect of carbon dioxide emissions;
- whether climate changes affects the intensity of some natural disasters;
- incentives to reduce carbon dioxide emissions;
- carbon dioxide reduction targets that are needed to solve the climate change problem; and
- the role of nuclear power in reducing GHG emissions.

On a motion made, seconded and unanimously approved, the minutes of the June 12, 2007 meeting were approved as submitted.

Representative Wallace reminded the committee of the HAZMAT challenge scheduled for August 2, 2007 in Los Alamos.

### **Renewable Energy Resource and Technology Opportunities**

Roger Taylor, group manager for state, local and tribal integrated applications at the National Renewable Energy Laboratory (NREL), began by providing the committee with an overview of the work performed at NREL. He explained that NREL is the nation's primary laboratory for renewable energy and energy efficiency research and development, and that NREL's mission and strategy are focused on advancing the U.S. Department of Energy's and the nation's goals.

Mr. Taylor went on to review the various renewable resource and renewable technology options for New Mexico. Renewable resource options include geothermal, biomass, wind, solar and hydroelectric energy; technology options include photovoltaic, diesel hybrids, big wind and small hydroelectric. Mr. Taylor also provided information on energy efficiency options and reviewed building designs that use advanced technologies, passive solar strategies and energy-efficient materials. He also summarized the benefits of using Energy Star appliances, efficient lighting and weatherization options.

Mr. Taylor described for the committee in more detail renewable energy technology options. With regard to wind, Mr. Taylor discussed New Mexico's wind resources and wind turbine sizes and applications. He went on to review biomass projects on home and commercial scales, options for harnessing geothermal energy and hydro power options. Mr. Taylor concluded

by briefly discussing the potential for hydrogen, stating that hydrogen is very much in the research stage and the costs of implementation for hydrogen resources are enormous.

Questions and comments included:

- costs associated with wind, solar and nuclear power per kilowatt/hour;
- costs associated with low-power hydro projects and New Mexico's potential for hydro power;
- the construction of new nuclear power plants in the United States;
- the percentage of renewable energy resources that can be reliable baseload power;
- power plants at El Vado and Abiquiu reservoirs;
- parabolic solar energy systems;
- plug-in electric cars and hydrogen production and storage; and
- geothermal energy rights as compared to mineral rights on private land.

### **Fossil Energy and Technology**

Ron Broadhead, principal senior petroleum geologist for the New Mexico Institute of Mining and Technology, provided the committee with testimony regarding oil and gas resources in New Mexico. He explained that New Mexico enjoys the position of being second in the nation in natural gas production and fifth in the nation in oil production. Mr. Broadhead went on to discuss the difference between proven and undiscovered gas and oil, and provided the committee with information regarding how long oil and gas resources would be available at current production rates. He pointed out that a large percentage of gas production comes from recently drilled wells and that new oil reserves have been discovered recently, so the resource base of both is larger than previously estimated. Mr. Broadhead also discussed the effects that price fluctuations have on oil and gas production.

Finally, Mr. Broadhead reviewed New Mexico's coal production, noting that the state only produces 3% of the total tonnage of coal produced in the United States each year. He also pointed out that 85% of the electricity produced in New Mexico is derived from coal.

Next, Dr. George Guthrie, program director for the Office of Fossil Energy and Environment at Los Alamos National Laboratory, provided the committee with testimony regarding fossil fuels as a carbon-neutral energy option. He explained that one of the problems associated with the use of fossil fuels is the creation of GHGs such as carbon dioxide, and that technology has been developed that allows for the capture of carbon dioxide. Dr. Guthrie informed the committee that the technology, called geologic sequestration, involves compressing carbon dioxide into a supercritical fluid, then injecting that fluid into space within geologic reservoirs. The carbon dioxide is initially trapped by impenetrable caprocks and eventually is dissolved in the reservoir brine or reacts to form solid carbonates.

Dr. Guthrie went on to explain that the Department of Energy sponsored the first pilot scale test of the technology in an oil reservoir near Hobbs in 2003. He also reviewed for the committee a number of the concerns surrounding use of the technology, such as whether the scale of carbon dioxide production in the U.S. makes carbon sequestration a viable option and how elements within the geologic reservoir's brine react with concrete caprock used to seal the

reservoir. Any risk assessment, Dr. Guthrie stated, must consider the potential for carbon dioxide release and subsequent movement from storage reservoir to various receptors.

Questions and comments included:

- capture of carbon dioxide during oil and gas production;
- whether carbon dioxide capture technology can be used on older oil and gas wells and power plants or whether it must be installed when first drilling a well or building a power plant;
- the potential for oil shale as a resource;
- whether reaction of carbon dioxide with concrete is actually beneficial to the caprock;
- oil and gas exploration on New Mexico's Otero Mesa;
- oil and gas reserves in New Mexico and the price of coal in New Mexico compared to Wyoming;
- amounts of carbon dioxide produced by oil and gas production;
- the cost of turning captured carbon dioxide into supercritical fluid;
- research on converting carbon dioxide to solids;
- potential damage carbon dioxide can have on well plugs and liability for well plugging; and
- pressure of sequestered carbon dioxide if it were to eat through a caprock.

### **Nuclear Energy 2007: A Status Report**

Marshall Cohen, senior director of legislative programs for the Nuclear Energy Institute, provided the committee with testimony regarding the production of nuclear energy. He explained that demand for electricity in the U.S. has steadily risen over the past several years and is projected to continue to rise. Mr. Cohen pointed out that demand for electricity in 2030 will be 41% greater than it is today, meaning that additional baseload capacity will have to be increased. He also noted that nuclear energy's production costs are significantly lower than oil and gas, while nuclear plants boast a better worker safety record and have formidable, tested security systems. Mr. Cohen also emphasized that nuclear power plants are the largest source of emission-free electricity in the United States. Worldwide, Mr. Cohen stated, nuclear power avoids the emissions of around two billion tons of carbon dioxide annually. He also discussed the concept of standardizing nuclear plants, which would cut down on the cost of designing, building and maintaining them as well as increasing efficiency of regulation of the plants.

Next, Mr. Cohen discussed management of used nuclear fuel. He explained that the current model uses nuclear fuel once, then disposes of the waste at facilities such as Yucca Mountain. However, Mr. Cohen noted that a new strategic direction for used nuclear fuel management targets the large amount of energy that is still left in spent nuclear fuel classified as waste in the U.S. This new technology that uses advanced reactors to recycle nuclear fuel, Mr. Cohen explained, is already in use in several other nations. Recycling nuclear fuel drastically reduces the amount of waste that must ultimately be stored; nonetheless, repositories such as Yucca Mountain are still needed by the industry for the long term. The Department of Energy, Mr. Cohen stated, will submit a license application for Yucca Mountain next year, but the question still remains as to when that potential storage location will be available.

Finally, Mr. Cohen discussed the construction of new nuclear power plants and reviewed the locations of new nuclear power plants that are under consideration by various companies. Mr. Cohen emphasized that several factors point to an increased role for nuclear energy in the electricity market, such as the growing need for increased electricity generation, volatility in natural gas prices and the problems associated with carbon emissions from fossil fuels. Mr. Cohen also outlined the steps to designing, obtaining licensing for and building new nuclear power plants. Finally, he reviewed policies in other states that support nuclear power construction, including Texas and Wisconsin.

Questions and comments included:

- the percentage of uranium that comes from the former Soviet Republic that is used in nuclear power plants in the U.S.;
- Louisiana Energy Services' uranium enrichment facility, under construction in Lea County, as a future source of nuclear fuel;
- reprocessing of spent nuclear fuel and the percentage of spent nuclear fuel that becomes waste;
- the number of advanced recycling reactors in operation globally and costs associated with building those reactors;
- the estimated number of nuclear power plants needed to meet demands for electricity;
- the viability of Yucca Mountain as a storage facility;
- public and private ownership of nuclear power facilities;
- security of nuclear power facilities and proliferation concerns; and
- transmission lines for electricity generated by nuclear power.

### **Public Comment**

Representative Heaton noted that a member of the public, Ben Luce, would like to speak during the public comment portion of the agenda but would not be available when it was scheduled for the next day. Representative Heaton allowed him instead to speak to the committee before it recessed for the day.

Mr. Luce, a member of the organization Break the Grip, explained to the committee that the presentations regarding renewable energy fell well short of what is really achievable. He noted that 1% of the solar energy available in the Sahara Desert could be enough to power the entire world. Mr. Luce also pointed out that an inordinate number of nuclear power facilities would have to be built to begin really to address global warming.

Mr. Luce went on to note that a decentralized electricity grid would be 60% more efficient than the current centralized one. He also indicated that he believes New Mexico has a terrible energy policy that allows a company such as PNM to charge more money to its customers to make up for lost income due to increased energy efficiency. He also emphasized that the legislature must change the way it conducts business before real energy policy reform can begin to happen.

The committee recessed at 4:50 p.m.

### **Friday, July 13**

#### **Energy Efficiency as a Resource**

Gail Ryba, New Mexico's representative in the Southwest Energy Efficiency Project, provided the committee with testimony regarding energy efficiency. She explained that energy efficiency is defined as offering the same services for less energy. She contrasted energy efficiency with conservation, which she pointed out is generally regarded as a change in personal behavior that may or may not be lasting. Ms. Ryba also discussed demand side management (DSM), which is an approach by a utility to implement energy efficiency and reduce consumption.

Ms. Ryba went on to discuss an energy efficiency goal set by the Western Governor's Association of a 20% increase in energy efficiency by 2020. She reviewed the benefits of such a reduction, including consumer and business savings and reductions in GHG emissions. Ms. Ryba also discussed how New Mexico can begin to achieve a 20% increase in energy efficiency. She explained that 4% could be achieved through rate structure reform, while another 3% could be found in improved building energy codes. Other areas that might help New Mexico achieve its goal, Ms. Ryba stated, are increased appliance efficiency standards, industrial sector initiatives and leadership by the public sector. Additional efficiency measures outlined by Ms. Ryba included home lighting, cooling and weatherization.

Finally, Ms. Ryba discussed several policies needed to encourage and increase energy efficiency in New Mexico. These include tax credits for energy-efficient technologies, expanded voluntary industrial efforts, best practices in public sector buildings and expanded training and technical assistance. The three immediate needs in New Mexico to stimulate energy efficiency, Ms. Ryba stated, are continued expansion of utility DSM programs, development of the regulatory structure to give correct market signals and control to utilities and greater emphasis on Energy Star-rated appliances. Other energy efficiency programs Ms. Ryba discussed included rebates for households that purchase energy-efficient appliances, audits and rebates for businesses that upgrade their efficiency and design assistance and incentives for builders that construct efficient homes and businesses.

Questions and comments included:

- energy efficiency programs in New Mexico and efforts conducted by the City of Austin, Texas;
- tax credits offered in New Mexico for energy-efficient buildings;
- light bulb exchange programs in Santa Fe;
- alternative building materials used in building energy-efficient homes;
- energy efficiency programs conflicting with the business model of utilities and what other models the state should explore;
- the success of pay-as-you-save programs;
- opportunities to increase energy efficiency through building codes;
- presence of mercury in compact fluorescent light bulbs; and

- maintenance costs of evaporative coolers versus refrigerated air units.

### **Challenges of the Changing Energy Era: A Utility's Perspective**

Art Hull, a lobbyist for PNM, and Mike D'Antonio, an engineer for PNM, provided the committee with testimony regarding the challenges the utility company faces as the energy market continues to evolve. Mr. Hull explained that PNM faces challenges in three major areas: increased costs, resource development and future energy policy. He noted that even though PNM faces increases in the cost of producing power, the company's rates are still 25% below the regional average and are frozen until 2008. Mr. Hull also pointed out that residential rates are basically the same as they were in 1982 and that the company has actually reduced rates four times since 1994.

Mr. Hull went on to explain that Americans are using 21% more electricity than they were in 1978, with consumption expected to increase another 40% by 2030. He indicated that the power industry will spend roughly \$412 billion to meet the increased demand, which includes the construction for new generation, transmission and distribution. Mr. Hull noted that technological developments, such as personal computers and cellular phones, have helped create more demand for electricity, which will in turn increase PNM's need for more resources. PNM's challenge is to achieve a balance by lessening the company's environmental impact while keeping energy prices affordable, he said.

Mr. D'Antonio reviewed for the committee PNM's fossil, nuclear and clean energy resources. He stated that PNM has ownership in two coal-fired power plants, it owns and operates four gas-fired plants and owns a part of the Palo Verde nuclear generating station. He also pointed out that the company purchases some power from the New Mexico Wind Energy Center. With regard to PNM's clean energy resources, Mr. D'Antonio explained that PNM has a 204-megawatt wind energy center, a 25-kilowatt solar photovoltaic generation station near Algodones and is conducting an emissions upgrade at its San Juan coal-fired power plant. He also noted that PNM is studying the development of concentrated solar power.

Mr. D'Antonio outlined PNM's interest in further developing wind and solar energy resources in the western U.S. and provided the committee with information regarding the cost per kilowatt-hour associated with various technologies. He also explained several other clean energy efforts, such as cleaner coal burning technologies, carbon sequestration, storage technologies and smart grid technology.

Mr. Hull informed the committee of some of the efforts PNM has made to address climate change and PNM's future energy policy. He explained that the company has begun to take inventory of and report GHG emissions, participate in national carbon capture programs, use alternative fuel fleet vehicles and develop clean energy resources. He stated that renewable energy will likely be only part of the company's picture, noting that diversity is critical to maintaining cost, reliability and security. Mr. Hull also noted that DSM and energy efficiency must also be considered as a resource. He emphasized that the keys to future energy policy will be to incorporate renewable energy, evolving energy technologies, diversity and security while keeping rates competitive.

Questions and comments included:

- reasons for PNM's four rate reductions since 1994;
- PNM's percentage of ownership in the Palo Verde nuclear power plant;
- whether increased demand for energy from Arizona and California could potentially reduce the amount of power New Mexico receives from the Palo Verde nuclear power plant;
- the amount of New Mexico's electricity furnished by nuclear power;
- plans for a biomass plant near Estancia;
- how the rates PNM charges are calculated and categorized;
- the percentage of people taking advantage of PNM's rebate programs and the current PNM energy efficiency programs;
- how the legislature can help PNM keep its rates reasonable;
- the amount PNM spends per kilowatt/hour to meet demand for electricity;
- the price per kilowatt/hour for concentrated solar technology;
- how aggressive PNM will be in encouraging DSM;
- the relationship between PNM and the Renewable Energy Transmission Authority; and
- whether renewable energy portfolio standards allow companies such as PNM to import renewable energy from other markets.

### **Sustainable Energy for New Mexico's Future**

Ned Farquhar of Mountain West Energy and the Natural Resources Defense Council (NRDC) provided the committee with testimony regarding sustainable energy. He began by providing the committee with a brief summary of recent developments in renewable energy policy in New Mexico, pointing out that he believes that the southwestern U.S. might be the most affected area in terms of climate change and its impacts. Mr. Farquhar went on to note that while New Mexico has made some strides toward better energy policy, policymakers have failed to go far enough in some instances. For example, while New Mexico's adoption of emission reduction standards were among the earliest in the country, the 5% energy efficiency standards approved in 2007 simply fall short. Mr. Farquhar identified three areas that New Mexico should focus on to improve its energy policy further: efficiency, climate policy and renewable energy.

Mr. Farquhar stated that energy efficiency is the first place to begin looking at improving New Mexico's energy policy. He pointed out that the U.S. is only half as energy efficient as Japan and western Europe. Mr. Farquhar also stated that energy efficiency in New Mexico seems to take a back seat to electricity production. He suggested that California's energy efficiency efforts be followed, explaining that its energy consumption per capita has stayed level for the past 20 years due to effective energy efficiency programs.

Next, Mr. Farquhar discussed climate policy as a means of improving energy policy. He first suggested that regional limits be placed on emissions. Next, Mr. Farquhar suggested that a market-based mechanism be put in place that allows buyers and sellers of energy to set carbon prices. Finally, he emphasized that many climate policies will require mandates, comparing policies to the Food and Drug Administration or to requiring seatbelts in cars.

Mr. Farquhar went on to discuss the potential of renewable energy. He pointed out that renewable energy features fewer carbon emissions and that New Mexico has a large potential to develop wind energy further. Mr. Farquhar also reviewed the storage issues associated with renewable energy and informed the committee that several technologies are being developed to address storage problems, including uphill water pumps for wind energy and injecting air into salt caverns.

Finally, Mr. Farquhar emphasized that the U.S. is at a turning point in its energy policy and that New Mexico needs to stay ahead of the pack in helping to determine the future of energy.

Representative Heaton requested that the next presentation be given and that the committee could ask questions of both presenters afterward.

### **New Mexico Climate Change Advisory Group: Report and Implementation of Recommendations**

Sandra Ely, environment and energy policy coordinator for the NMED, provided the committee with an overview of the work of the New Mexico Climate Change Advisory Group. She explained that the group was established by an executive order issued by Governor Richardson in 2005 and includes representatives from industry, local governments, national laboratories and universities. Ms. Ely also noted that the executive order set aggressive goals for reductions in GHG emission and enlists the advisory group to make recommendations for meeting the emissions targets.

Ms. Ely went on to explain that in 2006, the advisory group issued 69 recommendations covering transportation, land use, energy supply, energy use and agriculture. She pointed out that if all 69 recommendations are implemented, New Mexico will exceed the governor's emissions goals by 2020. Ms. Ely went on to discuss briefly several individual recommendations made by the advisory group, including use of advanced coal-burning technologies, building performance requirements, clean car standards, anti-idling measures in cars, forest protection and restoration and ethanol production.

Next, Ms. Ely discussed a December 2006 executive order issued by Governor Richardson that requires action on 20 of the group's recommendations by seven agencies. Those recommendations include clean car standards, a GHG reporting and registry program, green building codes and rules for carbon dioxide sequestration. Ms. Ely also reviewed for the committee clean energy legislation passed during the 2007 legislative session and the creation of the western regional climate action initiative. She concluded by informing the committee about a climate registry New Mexico has joined that will provide a common repository for companies, agencies and other organizations to report their entity-wide GHG emissions using standardized GHG measurement protocols.

Questions and comments for Ms. Ely and Mr. Farquhar included:

- GHG emissions from the oil and gas production industry;
- emission of a large percentage of GHGs from electricity generation plants;
- costs associated with establishing clean car standards;

- whether new car standards in New Mexico will simply drive consumers to purchase cars out of state;
- how many of the advisory group's recommendations will require legislative action;
- NRDC's position on Senator Jeff Bingaman's new energy bill and its impacts on New Mexico;
- the possibility of the proposed Desert Rock coal-fired power plan offsetting all of the advisory group's recommendations;
- Environmental Improvement Board appointments made by the governor; and
- increased car emission standards.

### **Energy in New Mexico: Trends, Vision and Opportunities**

Sarah Cottrell, energy and environment policy advisor for the Office of the Governor, and Craig O'Hare, special assistant for renewable energy for the New Mexico Energy, Minerals and Natural Resources Department, provided the committee with testimony regarding New Mexico's role in an evolving energy marketplace. Ms. Cottrell began by explaining that a lack of leadership on climate change at the federal level has forced states to begin taking the lead on climate change and energy issues. For example, the U.S. has no GHG reduction program and no renewable portfolio standard (RPS). She went on to state that both the governor and the legislature have taken a number of steps forward in advancing a better energy and climate policy. For example, Ms. Cottrell emphasized how Governor Richardson's GHG emissions targets, executive orders forming the Climate Change Advisory Group and the passage of the Renewable Energy Transmission Authority and renewable energy tax credits evidence New Mexico's leadership in addressing climate change and energy issues.

Next, Mr. O'Hare provided the committee with a general overview of policy issues surrounding energy planning and management in New Mexico. He explained that New Mexico has world-class energy resources, both fossil and renewable, and detailed the location of the state's wind and solar energy resources. Mr. O'Hare went on to discuss the major energy management policy issues facing New Mexicans, such as cost impacts on citizens and businesses, impacts to public health and global environmental impacts.

Mr. O'Hare reviewed for the committee the current trends in electric power generation, including increasing fossil fuel costs and the rapid development of wind power. He also discussed the trend of states adopting and increasing RPSs for utility companies, a measure that New Mexico has adopted to drive renewable energy development. He explained that while New Mexico has mandated that the portion of electricity that must come from renewable sources is 20%, other states have gone as high as 25%.

Mr. O'Hare moved on to outline several means of "carbon friendly" power generation, meaning technologies that either reduce or eliminate carbon dioxide emissions. Among the technologies he discussed are advanced coal technologies, nuclear power and concentrated solar power. Mr. O'Hare singled out concentrated solar power as a good candidate for renewable energy worth pursuing because of the ability to meet baseload generation demands. He explained that several states, as well as Spain, have begun pursuing concentrated solar technology to maintain baseloads because the intermittent nature of wind power makes it somewhat less

dependable for baseload generation. Additional renewable energy sources that can meet baseload and intermediate power generation needs, he stated, are wind power, distributed generation solar and biomass and geothermal sources.

Mr. O'Hare went on to discuss trends in energy usage in buildings and transportation. He explained that energy-efficient buildings are an underutilized resource and pointed out that some states are beginning to require energy-efficient measures in building codes. Mr. O'Hare also noted that there has recently been a strong interest in research and development work on biofuels for vehicles to help offset reliance on fossil fuels. The public's reaction to gas-electric hybrid vehicles has been very positive, he stated.

Mr. O'Hare concluded by noting that New Mexico is going to have to compete with other states and other countries for the twenty-first century energy economy. The clean energy industry offers significant potential for economic growth, and he emphasized that the time is now for New Mexico to begin making the transition to becoming a leader in energy development.

Questions and comments included:

- wind power as a stable energy source;
- energy storage issues associated with renewable energy;
- how 22 states have implemented RPSs;
- different methods of crafting RPSs for states that have different resources; and
- the need for a national RPS.

### **Regulatory Oversight of New Mexico's Energy Industry**

Jason Marks, vice chair of the New Mexico Public Regulation Commission (PRC), provided the committee with testimony regarding the regulation of New Mexico's energy industry. He began by explaining the risks associated with climate change and pointed out that actions by states can affect GHG. Thirty-four of the top 74 GHG emitters, he noted, are U.S. states. Next, he provided the committee with a brief overview of the PRC's structure, statutory powers related to energy policy and the commission's decision-making process. Mr. Marks stated that the PRC's statutory powers include the Public Utility Act, the Renewable Energy Act and the Efficient Use of Energy Act. He described the process of the PRC's role in the development of an RPS and discussed the PRC's administrative rules and orders related to renewable energy, including the weighting of technologies and reasonable cost thresholds.

Mr. Marks then discussed the Efficient Use of Energy Act, explaining that it mandates that the PRC require electric and gas utilities to implement cost-effective energy efficiency programs and to approve those programs. He also discussed the PRC's net metering rule and provided the committee with the cost, risk and performance of several energy-producing technologies. Finally, Mr. Marks discussed the PRC's integrated resource planning process.

Questions and comments included:

- whether solar energy has a minimum standard within the RPS; and
- PRC stakeholder meetings on renewable energy portfolio standards and the authority of the PRC to substitute a 20% diversity target for weights in the RPS.

## **Public Comment**

Bill Althouse, a member of Break the Grip, explained to the committee the need to move to a distributed generation system rather than a central power plant system.

David Bacon, also a member of Break the Grip, emphasized that New Mexico should move its energy economy to a decentralized, locally generated energy system.

Leland Lehrman, a candidate for the United States Senate in 2008 and a member of Break the Grip, explained that distributed generation locates larger numbers of smaller generators closer to loads in order to eliminate the need for inherently unstable, inefficient and therefore costly transmission lines. He stated that distributed generation is now mandatory in some European countries, which have been able to turn off central power plants one by one, increasingly relying on multipoint sources of wind, solar and biomass to replace nuclear and coal central plants. Engineers estimate that distributed generation reduces total system costs by 60%, he said. Infeed rates, he emphasized, are the solution to how to ramp up renewable energy capacity on the grid. He went on to state that a monopoly public utility such as PNM has no profit motive to deliver appropriate infeed rates to renewable energy suppliers that it does not own or control. Mr. Lehrman concluded by noting that Tom Casten's book "*Turning off the Heat*" should be required reading for all legislators involved in energy.

Robb Thompson, an associate with the New Mexico Conference of Churches, expressed his support for PNM's study of a large-scale solar energy production system in New Mexico.

Dan Lorimier, a member of the Rio Grande Chapter of the Sierra Club, stated that the chapter does not believe that nuclear energy and coal should be part of New Mexico's energy future; rather, renewable energy should be the centerpiece of New Mexico's future energy plan.

There being no further business, the committee adjourned at 4:15 p.m.

**MINUTES  
of the  
JOINT MEETING  
of  
LOS ALAMOS NATIONAL LABORATORY OVERSIGHT COMMITTEE  
and  
RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE**

**August 27, 2007  
Room 203, Main Conference Center, Los Alamos Research Park  
Los Alamos**

The joint committee meeting of the Los Alamos National Laboratory (LANL) Oversight Committee and the Radioactive and Hazardous Materials Committee (RHMC) was called to order at 10:10 a.m. on August 27, 2007, by Representative John A. Heaton, RHMC chair.

**Los Alamos National Laboratory Oversight Committee**

**Present**

Rep. Roberto "Bobby" J. Gonzales,  
Co-Chair  
Rep. Thomas A. Anderson  
Sen. Richard C. Martinez  
Rep. Debbie A. Rodella

**Absent**

Sen. Phil A. Griego, Co-Chair  
Sen. John T.L. Grubestic  
Sen. William H. Payne  
Rep. Jane E. Powdrell-Culbert  
Rep. Nick L. Salazar  
Sen. William E. Sharer

**Advisory Members**

Sen. Dianna J. Duran  
Rep. Ben Lujan  
Rep. Jeannette O. Wallace

Sen. Ben D. Altamirano  
Sen. Mary Jane M. Garcia

**Radioactive and Hazardous Materials Committee**

**Present**

Rep. John A. Heaton, Chair  
Sen. Richard C. Martinez, Vice Chair  
Sen. Vernon D. Asbill  
Rep. William J. Gray  
Sen. Gay G. Kernan  
Sen Carroll H. Leavell  
Rep. Antonio Lujan  
Rep. Jim R. Trujillo  
Rep. Jeannette O. Wallace

**Absent**

Sen. John T.L. Grubestic  
Rep. Manuel G. Herrera

**Advisory Members**

Rep. Thomas A. Anderson  
Rep. Donald E. Bratton  
Sen. Rod Adair

Sen. Mary Jane M. Garcia  
Sen. John Pinto

Sen. William H. Payne  
Rep. Nick L. Salazar  
Rep. Jeff Steinborn  
Rep. Peter Wirth

**Staff**

Gordon Meeks  
Evan Blackstone  
Aldis Philipbar

**Guests**

The guest list is in the original meeting file.

**Monday, August 27**

**Committee Business**

Representative Heaton began the meeting by welcoming everyone and having committee members and staff introduce themselves to the audience. Representative Heaton went on to explain the charge of the RHMC. Representative Gonzales then explained the role of the LANL Oversight Committee. Jim West, chair of the Los Alamos County Council, also welcomed the committee. Representative Heaton stated that LANL is the crown jewel of New Mexico and that the committee is very concerned about the current reputation of LANL. He said the legislature should do everything in its power to help develop a strategy to move LANL forward and to help change LANL's reputation.

**Environmental Program Overview and Update on Consent Order Compliance: LANL**

Susan G. Stiger, associate director for environmental programs at LANL, informed the committees that her primary responsibilities at LANL are waste management and cleanup activities at the lab. Ms. Stiger explained that she has been at LANL for four months and has previous experience at the Department of Energy's (DOE) Rocky Flats site, Hanford site and the Idaho National Laboratory. However, she stated, the complex and compact sites at LANL, coupled with an ongoing mission, make it a more difficult challenge. Ms. Stiger explained that the objective of LANL is to clean up the lab to levels defined by regulations and the federal consent order. She pointed out that the lab is working toward that objective by conducting its work safely and in compliance with requirements; by managing waste and program activities so that no new cleanup liabilities are created; and by improving efficiency and effectiveness.

Ms. Stiger went on to provide an assessment of LANL's cleanup program. She pointed out that the consent order provides a robust framework for cleanup at LANL. However, the consent order is young, and the lab is still investigating sites for cleanup. She stated that the lab can build upon successful cleanup experience elsewhere, especially in determining when enough is known to proceed with cleanup. Currently, LANL is at a critical transition between understanding the contamination and moving toward increased cleanup. Five to six decisions on cleanup will be presented for public review and comment in the next few years, and there will be a transition in the types of skills required both for subcontractors and LANL personnel. At that

point, Ms. Stiger said, progress will be more evident. Ms. Stiger emphasized that cleanup at LANL is unique because the aquifer is 800 to 1,000 feet below the surface at LANL and the hydrogeology is extremely complex. She stated that LANL continues to enhance its ground water monitoring and sampling programs. Finally, Ms. Stiger informed the committee that LANL's efforts to improve business practices will support an efficient cleanup program.

Ms. Stiger then updated the committees on LANL's progress in complying with the consent order. She reiterated that LANL's commitment is 100 percent compliance with the consent order. However, she stated that LANL's relationships with its stakeholders and regulators is not what it should be. Ms. Stiger pointed out that communicating effectively with the New Mexico Department of Environment (NMED) is essential to ensure that both the letter and the spirit of the consent order are met, and that more frequent and more constructive discussions are essential. She explained that LANL needs to improve transparency and credibility and work hard to achieve trust with stakeholders, regulators and members of the public. One way of achieving this goal is by increasing external reviews of LANL's programs and data. In the end, Ms. Stiger informed the committees, the ultimate measure is LANL's performance, and the lab has a commitment to execution and a willingness to tackle the challenges that arise. In conclusion, Ms. Stiger summarized some of the impending cleanup activities taking place next spring; cleanup of Material Disposal Area (MDA)-V and MDA-B; and cleanup of Area G (legacy sites).

Questions and comments included:

- where the material from cleanup activities is disposed;
- schedule of dates and the time line for the consent order;
- depth and complexity of the aquifer and how they affect cleanup;
- what components of the consent agreement have not been yet met and what is the status;
- Rocky Flats as the model for cleanup and required funding commitment;
- request for budgets from LANL from now to 2015 that would meet cleanup needs;
- how federal budget cuts are affecting abilities for cleanup;
- quantifying the levels of contamination;
- causes for missed compliance with the consent order;
- more effective characterization of the ground water parameters;
- Weldon Springs, Missouri, as a cleanup project model;
- budgets for LANL and for NMED related to cleanup; and
- LANL's standards for determining the ultimate use of the sites that are now contaminated after they are cleaned up.

### **Update on Consent Order Compliance NMED**

James Bearzi, Hazardous Waste Bureau chief for NMED, provided the committees with an update on LANL's compliance to date with the federal consent order. He began by describing the scope and history of the consent order. It began in 2002, when NMED issued a finding of imminent and substantial endangerment, and culminated in 2005, when the parties signed the final compliance order. Mr. Bearzi explained that the consent order represents a commitment to New Mexico. Its scope is geographically huge because it covers the surface, subsurface and ground and surface waters on the lab's entire property; however, the order only addresses

chemical constituents, not radionuclides, which are under federal government jurisdiction. The consent order also does not address operations, but does provide for investigations, cleanup and land transfers. Mr. Bearzi went on to explain that the order accelerates the pace of investigation and cleanup, prioritizes and focuses the activities, provides for reporting and investigation requirements, provides for adequate cleanup standards and provides schedules for cleanup and remedies. LANL currently has over 1,000 contaminated sites with varying degrees of contamination. Over 80 different pollutants have been discovered in the ground water, which is significant because the city and surrounding communities depend on the aquifer.

Mr. Bearzi described the schedule and document submittals required by the consent order and updated the committee on LANL's compliance record. He stated that LANL has a mixed record of success. The lab has done much to ramp up the pace of cleanup, it has reduced the number of unsolicited superfluous documents and has begun to agree that there are serious deficiencies in its ground water monitoring program. On the other hand, Mr. Bearzi pointed out, some work and documents submitted by LANL meet only minimum requirements or less and the lab is behind on remedy selections and has been subject to various enforcement actions. Furthermore, Mr. Bearzi stated, LANL's ground water monitoring network is woefully deficient. Mr. Bearzi acknowledged that LANL is behind on remedy selections primarily because it does not know enough about the groundwater contamination, and the complexity of the geology in the area makes cleanup difficult.

Finally, Mr. Bearzi reviewed the state's performance record with regard to the consent order's requirements. He stated that the NMED has not missed a notice date since October 2006 and NMED's technical staff is providing valuable guidance on LANL's ground water program and the remedy targets. The Legislative Finance Committee has given the NMED mixed reviews on its performance. Mr. Bearzi concluded by emphasizing that the state needs to conduct timely and appropriate enforcement, provide timely and technically sound feedback and needs to involve the public.

Questions and comments included:

- concerns about the state not meeting consent order deadlines and whether it has an adequate budget to meet its responsibilities;
- the effect of budget on staffing and the ability to meet work requirements with \$1.1 million and with 10 full-time employees (FTEs);
- a request for a scorecard that depicts work tasks and work accomplishments relative to a schedule;
- seismic issues relative to volcanism of the mountain; and
- a number of requests for information from activist groups.

On a motion made, seconded and unanimously approved, the minutes of the June 12, 2007 RHMC meeting and the minutes of the July 27, 2007 LANL Oversight Committee meeting were approved as submitted.

## **LANL Ground Water Protection Program**

Danny Katzman, Water Stewardship Program manager at LANL, provided the committees with an overview of LANL's ground water and surface water monitoring project as well as an update on chromium contamination from LANL activities. Mr. Katzman informed the committees that the monitoring project is a comprehensive program implemented under the consent order. The project includes 82 shallow alluvial wells, 24 perched intermediate wells, 37 regional aquifer wells and 52 springs. The monitoring objectives of the project are protection of water supply wells, area-specific characterization and area-specific monitoring for corrective measures and facility operations.

Mr. Katzman provided the committees with a map of the locations of the wells and outlined some changes to the monitoring-well network. He explained that area-specific monitoring-well network evaluations are being conducted pursuant to an NMED requirement issued in April 2007. Mr. Katzman stated that the evaluations will result in recommendations to the NMED for upgrades to the monitoring-well network. The NMED is not in a good place to make high-quality decisions about cleanup unless the lab has its monitoring wells in good, reliable condition. These network upgrades, Mr. Katzman emphasized, are important critical paths toward timely completion of the consent order. Furthermore, LANL has set an aggressive schedule of improving the monitoring network over the next one and one-half years.

Mr. Katzman went on to give the committees an update on chromium contamination. He explained that chromium was used as a corrosion inhibitor in the power plant cooling towers in Sandia Canyon from 1956 to approximately 1972. It is estimated that a total of between 69,000 and 160,000 pounds of chromium was released through daily discharges into Sandia Canyon. LANL is currently working with Los Alamos County and the City of Santa Fe to ensure that adequate monitoring is being conducted at water supply wells. Mr. Katzman emphasized that, in September 2007, three major reports will be issued that hopefully will complete the investigative phase that will lead to long-term decisions about cleanup.

Questions and comments included:

- fiscal year 2008 LANL budget for ground water monitoring;
- the number of new wells being drilled each year and final number of new wells;
- the nature of drilling fluids used in drilling monitoring wells that may affect quality of ground water;
- the potential for using some of the same cleanup techniques in production wells that are used in the monitoring wells;
- explanation for the costs of drilling wells in the Jemez Mountain environment; and
- location of measurements of radionuclides downriver.

Mr. Katzman explained that there is a background level of chromium and that during the 1950s and 1960s, chromium was released from power plant cooling towers in Sandia Canyon. Between 70,000 pounds and 160,000 pounds were released into the canyon. He showed the locations and extent of contamination in wells and presented some graphics depicting the extent of contamination, maps, cross-sections and geologic formations affected by the releases. The

NMED requires a final investigation report of the extent and form of the chromium contamination and cleanup requirements by September 2008.

Questions:

- variables that affect the drilling cost of different kinds of wells;
- the status of the power plant that was the source of the chromium contamination;
- the speed of the movement of the contamination plume (a couple of meters per day of the ground water flow);
- how long before it reaches the Rio Grande;
- epidemiological studies of health effects in nearby communities;
- how long municipalities have been looking for chromium and the potential for chromium already to have moved through the ground water systems;
- loss of well bore integrity;
- cooperation and communication with the municipal authority and the public works people; and
- the distance between the known contamination and the drinking water production well.

### **Status of the Waste Isolation Pilot Program (WIPP) Shipments**

Gerald O'Leary, Transuranic (TRU) Waste Disposition Program director at LANL, informed the committees that the mission of the program is to accelerate the retrieval, characterization and shipment of approximately 60,000 drum equivalents of TRU waste from LANL to WIPP. He reviewed the TRU waste operations at Area G and summarized LANL's TRU waste inventory. Mr. O'Leary also summarized the TRU waste disposition process and pointed out that LANL has transferred the prescreening process to Washington TRU Solutions. In 2007, Mr. O'Leary pointed out, 2,385 containers were shipped to WIPP as compared to 2,499 in all of 2006. Mr. O'Leary emphasized that the Carlsbad field office and Washington TRU Solutions' central characterization program have prioritized shipments of high-activity drums.

Mr. O'Leary said that LANL's major challenge is overcoming the 70 percent rejection rate during prescreening of drums from the Area G inventory, which requires remediation and repackaging. Consequently, LANL is enhancing its TRU waste packaging capabilities so that packages will not include prohibited items and will qualify for storage at WIPP. He went on to state that LANL will start shipments of remotely handled TRU waste in October 2007. In conclusion, Mr. O'Leary summarized that LANL's challenges include an aggressive completion schedule, the operational capability and availability of facilities and sequencing the retrieval, characterization, shipping and environmental restoration activities.

Questions:

- disposal of material after repackaging;
- what is stored at pad 10 in Area G;
- the nature of prohibited items in containers;
- the rate of shipments and an acceleration plan that takes into account WIPP's closure; and

- the need to ship 4,000 to 5,000 drums of TRU waste per year and the need for more repackaging facilities.

### **Sandia National Laboratories (SNL) Consent Order Status**

Mr. Bearzi provided the committees with an update on SNL's compliance to date with a federal consent order. It began in 2002 when the NMED issued a finding of imminent and substantial endangerment and culminated in 2004 when the parties signed the final compliance order. Much like the consent order for LANL, the consent order for cleanup at SNL covers the surface, subsurface and ground and surface waters on the lab's entire property; however, the order only addresses chemical constituents, not radionuclides, which are under federal government jurisdiction. The consent order also does not address operations, but does provide for investigations and cleanup. Mr. Bearzi reported that SNL is nearing the end of its cleanup work, and there are four remaining ground water sites and one mixed waste landfill site. Mr. Bearzi highlighted SNL's time line under the order and explained the length of time required for decisions and implementation. He also pointed out how much delay is inherent in the process of these cleanups and the demands they place on state resources. He stated that SNL is doing well, but that progress continues to be problematic, primarily due to SNL's continued refusal to implement a LANL-style voluntary fee agreement to support the NMED staff hours dedicated to SNL. In addition, Mr. Bearzi noted, his bureau has allocated significant staff time to respond to an unusual number of requests for information from activist groups.

Fran Nimick, deputy director for Center 6700 at SNL, provided the committees with an update on SNL's consent order compliance. With regard to solid waste management units and areas of concern, Mr. Nimick stated that the mixed waste landfill is the only remaining site. Two of three corrective measure evaluation plans for ground water areas are in review at the NMED, and all required monitoring and reporting for perchlorate screening of ground water is on schedule or completed. Only four deliverables remain under the order, and all other deliverables have been submitted on or ahead of schedule.

Questions and comments included:

- an explanation for delays by the NMED in responding to SNL's response to a notice of disapproval;
- a budget for the NMED to oversee SNL's cleanup;
- problems caused by turnover of key staff;
- transfer of money from other cleanup efforts after closure to needed projects elsewhere;
- refutable evidence of ground water contamination for permitted facilities in Bernalillo County; and
- reaching closure of public hearings and the need for decisions based on science.

### **Federal Resource Conservation and Recovery Act (RCRA) Permit Update**

Mr. Bearzi provided the committees with an update on the RCRA permits and permitting process for LANL and SNL. New draft permits have been released for public comment, and Mr. Bearzi delivered two copies to DOE and LANL officials in front of the committees. He explained the RCRA law and the role of the states under the program. RCRA addresses disposal of

hazardous waste, and it defines technical standards for treatment of hazardous waste, storage and disposal. Under the RCRA permitting process, the proper state authority issues a draft permit, there is a public hearing and the proper state authority then issues a final permit. Mr. Bearzi pointed out that the NMED's permitting process requires the NMED to meet with stakeholders that are in opposition to the permit and to try to negotiate and revise the permit accordingly. The RCRA permitting process includes a public comment period on a draft permit, meeting with stakeholders, issuing a revised draft permit for public comment, conducting a public hearing on a narrow scope of issues and issuing a final permit.

Mr. Bearzi went on to point out that RCRA applies to LANL and SNL because they generate hazardous waste. LANL and SNL activities covered by RCRA include hazardous waste generation, storage, treatment, disposal, corrective action and public participation. Mr. Bearzi explained that RCRA's permitting goals include sound waste management practices, integration with consent orders and clear schedules. Finally, Victoria George, Environmental Protection Division leader at LANL, informed the committee that LANL is working with the NMED to ensure it receives all necessary information for the RCRA permit and that LANL is just beginning evaluation of the draft permit.

Questions and comments included:

- the status of Cannon, Holloman and Kirtland Air Force bases under RCRA;
- how RCRA permitting has changed over the years; and
- how states vary in their administration of RCRA.

On a motion made by Representative Heaton, seconded and unanimously approved, the committees directed staff to draft a letter on behalf of the committees to DOE, New Mexico's congressional delegation and the U.S. secretary of energy, requesting them to provide LANL \$15 million in fiscal year 2008 and \$15 million in fiscal year 2009 to fund ground water monitoring at LANL.

### **LANL and Northern New Mexico's Economy**

Joseph Maestas, mayor of Espanola, explained to the committees how LANL budget cuts as proposed in the U.S. House of Representatives version of the federal budget will affect LANL's community commitment plan. He stated that the City of Espanola, and all of northern New Mexico, are concerned about the budget cuts and that the city opposes the budget cuts. Mayor Maestas went on to call for a more gradual transition of LANL's mission in order to help mitigate job cuts. He also called for the governor and state legislature to cooperate with the cities and communities affected by the cuts in order to mitigate their effects. Mayor Maestas proposed a partnership between New Mexico's local governments, THINK New Mexico and state and federal governments to address the negative effects of LANL budget cuts on communities in northern New Mexico.

Questions and comments included:

- compliments to the mayor and to LANL;
- a need for regional collaboration;
- the budget for LANL in 1990 compared to the current proposed budget;

- the need to reduce northern New Mexico's reliance on LANL for its economy;
- gross receipts tax paid by LANL and exemptions for LANL's out-of-state contracts;  
and
- the need for cooperation and communication among the local communities.

There being no further business, the committees adjourned at 4:08 p.m.

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

**September 20-21, 2007  
Carlsbad Environmental Monitoring and Research Center  
Carlsbad**

The fourth meeting of the Radioactive and Hazardous Materials Committee was called to order by Representative John A. Heaton, chair, on September 20, 2007 at 10:10 a.m. at the Carlsbad Environmental Monitoring and Research Center in Carlsbad.

**Present**

Rep. John A. Heaton, Chair  
Sen. Richard C. Martinez, Vice Chair  
Sen. Vernon D. Asbill  
Rep. William J. Gray  
Sen. Carroll H. Leavell  
Rep. Antonio Lujan  
Rep. Jim R. Trujillo

**Absent**

Sen. John T.L. Grubestic  
Rep. Manuel G. Herrera  
Sen. Gay G. Kernan  
Rep. Jeannette O. Wallace

**Advisory Members**

Rep. Thomas A. Anderson  
Rep. Donald E. Bratton

Sen. Rod Adair  
Sen. Mary Jane M. Garcia  
Sen. William H. Payne  
Sen. John Pinto  
Rep. Nick L. Salazar  
Rep. Jeff Steinborn  
Rep. Peter Wirth

**Staff**

Evan Blackstone  
Jeret Fleetwood

**Guests**

Rep. Shirley A. Tyler

The guest list is in the original meeting file.

**Thursday, September 20**

Representative Heaton began the meeting by welcoming the committee to Carlsbad. He also provided the committee with brief histories of the Radioactive and Hazardous Materials

Committee, the Waste Isolation Pilot Project (WIPP) and the Environmental Monitoring and Research Center. Then committee members and staff introduced themselves to the audience.

### **WIPP: Status, Permits, Updates**

Roger Nelson, chief scientist at WIPP, provided the committee with testimony regarding operations at WIPP. He began by reviewing the layout of the facility, noting that it is organized into rooms that make up numbered panels. Dr. Nelson went on to explain that Panels 1 through 3 have been filled with waste, Panel 4 is currently being filled, Panel 5 is being mined and three other panels are planned beyond that. He explained that Panels 6 through 8 do not exist yet, but that Panel 6 will begin to be mined next year. He also reviewed WIPP's operation over the past eight years, pointing out that the facility has received 6,012 shipments and that more than 50,000 cubic meters of transuranic (TRU) waste have been disposed, with no radioactive matter released into the environment and no personnel contaminated.

Dr. Nelson went on to discuss the modification to the WIPP permit with the New Mexico Department of Environment (NMED) that allows the facility to receive shipments of remote-handled (RH) waste. He explained that the permit modification was signed by Governor Richardson on October 16, 2006 and that RH disposal operations began at WIPP on January 24, 2007. He stated that WIPP is currently receiving between three and five RH waste shipments per week. Dr. Nelson indicated that RH waste is placed into boreholes drilled into the sides of rooms in the facility, then contact-handled waste is placed over the boreholes. Next, Dr. Nelson discussed testing of the TRUPACT-III containers. He explained that a significant portion of the TRU waste destined for WIPP simply would not fit into the TRUPACT-II containers, necessitating the design of a new container. He stated that the TRUPACT-III containers allow for the shipment of irregular boxes without repackaging. Dr. Nelson provided the committee with information regarding the testing of the new container and indicated that an application to use the containers for the shipment of waste had been submitted to the Nuclear Regulatory Commission in July 2007.

Finally, Dr. Nelson discussed the new carrier contracts for WIPP transportation. He noted that partial requirements that drivers must meet include: 325,000 accident-free miles in semi-tractor trailers, no repeated chargeable incidents or moving violations in private vehicles, background checks and frequent fitness for duty checks, which include drug testing and health requirements. Dr. Nelson concluded by stating that TRU waste disposal is a complex effort involving multiple U. S. Department of Energy (DOE) sites in several states. He pointed out that there are a number of regulatory and oversight organizations that the facility must deal with, but that WIPP continues to get the job done with excellence.

James Bearzi, chief of the Hazardous Waste Bureau of the NMED, also provided the committee with testimony regarding WIPP's operations. He emphasized that while news headlines may give the impression that the DOE does not do things well, the department runs the WIPP facility very well, and WIPP has made very few mistakes. Mr. Bearzi went on to explain that the facility is allowed to operate in New Mexico through a complex and continually evolving permit with his agency. He also noted that a permit as complicated as WIPP's would require frequent modification for which permit modification requests (PMRs) had to be made. Mr.

Bearzi indicated that no facility in New Mexico comes close to the number of PMRs submitted or processed as WIPP does.

Next, Mr. Bearzi discussed several of WIPP's PMRs. He noted that Class 1 PMRs are the least complicated permits while Class 3 PMRs require the issuance of a draft permit. Mr. Bearzi also noted that there are a couple of outstanding PMRs involving WIPP, the most controversial of which involves the closure of panels within the facility. He indicated that a stakeholder meeting was to be held in Albuquerque on September 20. Mr. Bearzi went on to discuss shipment of an unauthorized drum from the DOE facility in Idaho. He explained that the drum had already been shipped to WIPP and placed in a room before the Idaho facility noticed the mistake. Mr. Bearzi went on to indicate that NMED Secretary Ron Curry ordered the noncompliant drum removed from WIPP on August 3, which was done on August 17, and it was shipped back to Idaho the next day. Mr. Bearzi commended WIPP for removing the drum safely, a process he pointed out had never been performed before. He also indicated that the NMED is still contemplating enforcement action against the Idaho facility.

Finally, Mr. Bearzi noted that WIPP and the NMED have already begun to look toward WIPP's permit renewal, which will take place in 2009. He also noted that the department is looking forward to resolving the issue of panel closures at WIPP in the near future. He concluded by informing the committee that the NMED receives funds annually from WIPP to fund its regulatory activities.

Questions and comments included:

- contents of the noncompliant container shipped from the Idaho facility;
- hazards involved in getting to the noncompliant container;
- the importance of sending a message to the Idaho facility that New Mexico will not accept noncompliant shipments;
- issues related to waste cleanup at Los Alamos National Laboratory (LANL);
- the location of RH waste in the WIPP facility;
- explanation of the issues related to panel closures at WIPP;
- the source of RH waste;
- the impact of anticipated DOE budget reduction on WIPP's operations;
- agencies responsible for inspecting the sites that generate WIPP waste;
- the significance of liquid waste storage issues and whether liquid waste can be stored at WIPP;
- Class 3 PMRs required by the NMED in order for liquid waste to be stored at WIPP;
- the importance of the culture and leadership at the WIPP site; and
- whether the WIPP permit can be changed to allow for storage of waste from the generation of nuclear power.

### **National Enrichment Facility Status: Report from Louisiana Energy Services (LES)**

Clint Williamson, vice president for governmental affairs at LES, provided the committee with testimony regarding the National Enrichment Facility (NEF) in Lea County. He explained that construction has already begun on the facility and discussed the various phases.

Mr. Williamson also provided the committee with a brief overview of the uranium enrichment process, pointing out that the NEF will produce fuel for use in nuclear plants. He also noted that once the facility is fully online, it will process 25% of the uranium used for fuel in commercial U.S. nuclear plants. Mr. Williamson also indicated that the technology used by LES to process uranium has been successfully used in Europe for over 30 years.

Next, Mr. Williamson explained to the committee that the site for the NEF, outside of Eunice, had been selected by LES because it meets the stable seismic requirements for centrifuges, has no prior land contamination, has a stable climate and has access to a good power supply. He also emphasized that the site was chosen because of the strong local, regional and state support LES received when considering locations. Mr. Williamson went on to show the committee a number of slides illustrating the early phases of construction of the NEF. He indicated that some of the tasks already completed were the installation of electrical manholes and an office trailer complex, as well as construction of an electrical substation at the site. Mr. Williamson summarized the employment opportunities that the project provides to the community. He explained that LES currently has 171 employees and that its target hiring goal is 200 employees by the end of 2007. Finally, he reviewed the housing construction taking place in the area due to the influx of employees.

Questions and comments included:

- the positive impact of LES construction on the local economies of Hobbs, Lovington, Eunice, Jal and communities in Texas;
- the source of unprocessed uranium;
- the waste generated from the uranium enrichment process and its disposal;
- the Nuclear Regulatory Commission (NRC) as the agency responsible for setting strict construction requirements; and
- the resolution of a lawsuit filed by local residents against LES.

### **Disposal of Greater-Than-Class-C (GTCC) Low-Level Radioactive Waste**

James Joyce, document manager of the GTCC environmental impact statement (EIS) for the DOE, provided the committee with testimony regarding the challenges involved with the disposal of GTCC waste. He began by explaining that GTCC waste is another type of low-level radioactive waste comprising items that have become contaminated with radioactive material or have become radioactive through exposure to radiation. Mr. Joyce explained that there are four classes of low-level waste: A, B, C and GTCC. While Classes A, B and C can be disposed of in near-surface facilities, GTCC disposal is more complex. He explained that the NRC requires GTCC waste to be disposed of in licensed geologic repositories unless alternative methods of disposal are proposed to the NRC and approved.

Mr. Joyce went on to note that there are three basic types of GTCC waste: activated metals, sealed sources and other waste such as contaminated equipment from laboratory research. He said estimates and projections indicate the amount of GTCC waste that will need to be disposed of in the near future at 2,600 cubic meters. Mr. Joyce pointed out that it is important to dispose of this waste properly because of the potential threat to the environment and because of its potential for use in dirty bombs. Mr. Joyce went on to discuss various proposed disposal

methods, such as deep geologic repositories, intermediate depth boreholes and enhanced, near-surface facilities. He explained that deep geologic repositories consist of facilities like WIPP and the one at Yucca Mountain. Mr. Joyce indicated that using intermediate depth boreholes involves drilling holes at least 30 meters deep, placing the waste in them and adding barriers such as drilling deflectors to prevent inadvertent human intrusion.

Finally, Mr. Joyce discussed the DOE's plans for addressing disposal of GTCC waste. He explained that the DOE has issued a notice of intent to prepare an EIS for the disposal of GTCC waste, and in fact has already begun the EIS process. Drafting the EIS, receiving public comment, reporting to Congress and receiving congressional action are all steps in the GTCC EIS process. Mr. Joyce went on to indicate that there are a number of potential disposal sites under consideration by the DOE, including Yucca Mountain in Nevada and the WIPP site.

Questions and comments included:

- the due date for report on the EIS to Congress;
- why congressional action is necessary for disposal of certain kinds of waste;
- the estimated current and projected GTCC waste inventory;
- similarities between GTCC and TRU waste stored at the WIPP facility;
- the potential for WIPP to house commercial GTCC waste;
- the differences between TRU waste and activated metals;
- that commercially generated TRU waste is a small percentage of the GTCC inventory, most of it is made up of activated metals;
- the amount of waste projected to be generated when nuclear power generation facilities begin to go offline; and
- a time line for finalization of the EIS and congressional action.

### **The Global Nuclear Energy Partnership: Review and Report on Site Characterization and EIS**

Dr. David Kessel, manager of Carlsbad programs for Sandia National Laboratories, Rick Wallace, safeguard systems group leader for LANL, and Dr. Mark Turnbough, principal investigator for the Eddy-Lea Energy Alliance, began by providing the committee with an overview of the Global Nuclear Energy Partnership (GNEP). Dr. Kessel explained that as global demand for energy continues to increase, nuclear power is becoming an increasingly viable option for a number of countries. He mentioned the various aspects that make nuclear power so attractive, such as low greenhouse gas emissions and relatively low cost-per-kilowatt-hour. Dr. Kessel also pointed out that nations all over the world are either expanding their nuclear power generation or considering developing nuclear capabilities.

Dr. Kessel explained that the GNEP project was established in February 2006 to develop and deploy innovative, advanced nuclear reactors and new methods of recycling spent nuclear fuel in order to create a safe, orderly system to field nuclear plants without adding to the danger of nuclear weapons proliferation. The project launched as part of President Bush's Advanced Energy Initiative and was originally funded at \$80 million. In 2007, the funding for the project was \$167.5 million, and the proposed budget for 2008 is \$405 million. Dr. Kessel went on to explain that the key international elements of the GNEP are the establishment of bilateral or

multilateral partnerships with developing countries, assurances regarding fuel supply and used fuel management and technical collaboration between participating countries. He noted that the GNEP offers a solution for developing countries by taking away their will, but not their right, to pursue nuclear fuel enrichment and reprocessing. Dr. Kessel also pointed out that the United States, China, France, Japan, Russia, Australia, Ghana, Jordan, Kazakhstan, Lithuania and Poland have all joined the GNEP. Next, Dr. Kessel discussed the key domestic elements of the GNEP, which he explained involves the development of technology for the recycling of nuclear fuel that does not separate plutonium, fast reactors that consume recycled fuel and an advanced fuel cycle facility to serve fuels research needs for the next 50 years. Dr. Kessel also reviewed the process for spent fuel separations and elements of the GNEP strategic plan on how to implement the project.

Dr. Kessel informed the committee that the National Environmental Policy Act analysis is underway for the GNEP, which includes developing a programmatic EIS and siting studies. Finally, Dr. Kessel discussed the GNEP's proposed consolidated fuel treatment center (CFTC) and advanced recycling reactor (ARR). He explained that developing technologies that are capable of separating out reusable nuclear fuel elements for electricity generation could significantly reduce both the radioactive levels present in waste and the overall volume of radioactive waste generated. Dr. Kessel pointed out that one of the sites being considered for the proposed facilities is in southeastern New Mexico.

Next, Mr. Wallace discussed LANL's involvement in the GNEP and nuclear energy development in general. He explained that LANL is strongly committed to enabling the nation's nuclear energy initiatives and nonproliferation policy. He also reviewed the GNEP program and summarized the integrated scientific and programmatic base that LANL brings to the initiative. He stated that the laboratory has done work on nuclear fuel fabrication, separation and recycling as well as fast reactors. He also noted that one of the key technical issues involving the GNEP is the nuclear proliferation risk reduction.

Mr. Wallace went on to note that LANL provides key scientific leadership in a number of important areas involving the GNEP, such as modeling and simulation, advanced material accounting and international partnerships. For instance, he pointed out, LANL is the lead laboratory for engagement with Russia. He also indicated that a materials test station at the lab will provide the environment for fast neutron irradiations of fuels and materials. Finally, Mr. Wallace discussed the advantages LANL brings to the GNEP initiative by reviewing its leadership in the area of nonproliferation, such as understanding threat and risk-informed decision analysis and experience engineering for crisis response.

Dr. Turnbough discussed the detailed site report submitted to the DOE by the Eddy-Lea Energy Alliance, on the feasibility of siting proposed GNEP facilities on a parcel of land between Carlsbad and Hobbs. He explained that the conclusion of the research they conducted is that the site meets, and in most cases exceeds, all of the criteria that the DOE elaborated on the initial grant request to perform the site analysis. Dr. Turnbough said the land is particularly well-suited for both the CFTC and the ARR because of the availability of water in the area, public support for the facilities, existing nuclear infrastructure in the area, expansion potential, nearby national

laboratory facilities and nuclear waste disposal capacity. Dr. Turnbough provided the committee with a map showing the location of the proposed site and an overview of the process involved in submitting a proposal for the site to the DOE. He explained that a number of public meetings had been held in the area to solicit feedback on the project and indicated that there was a good deal of public support for the project. Dr. Turnbough also emphasized that the submittal of a proposal to the DOE was completed in just 90 days, and he commended all of the parties involved for their work.

Marla Shoats, with Shoats and Weaks, Inc., described for the committee the public participation meetings her firm coordinated pursuant to the grant requirements. She explained that three public information meetings were required; however, the Eddy-Lea Energy Alliance requested that a fourth meeting be added. She went on to note that each meeting in Lovington, Carlsbad and Hobbs was translated in Spanish and English and was transcribed. The meetings were well-attended and reviewed the GNEP process, the technical parameters and the infrastructure requirements of the proposed facilities. Ms. Shoats stated that the DOE required reports of the meetings to be submitted 10 days after a meeting. She explained that a synopsis was done of all the public comments received and that the comments were synthesized into six categories. She concluded by stating that she has confidence that due diligence was taken in achieving public input and in adhering to the public participation process required by DOE guidelines for the grant.

Questions and comments included:

- cooperation between Eddy and Lea counties to meet submission deadlines;
- the importance of the two national laboratories (Sandia and LANL) to New Mexico and the potential for economic growth in the evolving energy economy;
- the amount of research already conducted by other countries on reprocessing of spent nuclear fuel;
- proliferation concerns regarding plutonium extraction technologies;
- construction of a 500-megawatt plant in southeastern New Mexico;
- the number of nuclear power plants scheduled to go offline in the next 20 years;
- the high quality of site proposals submitted by other locations for the CFTC and ARR;
- that advances made in nuclear reactor technology increase the safety with which they operate; and
- the difference between fast reactors and water reactors.

### **Carlsbad Environmental Monitoring Facility and Research Center: Report**

Jim Conca, director of the Carlsbad Environmental Monitoring Facility and Research Center, provided the committee with a brief history and overview of the facility's mission and capabilities. He explained that the construction and operation of the WIPP facility raised a number of concerns about potential radioactive contamination coming from the facility, and that the center was tasked with monitoring the air and water at and near the WIPP facility. In addition, the center was charged with monitoring the bodies of citizens in the region for radioactivity.

First, Mr. Conca noted that aerosol is the most likely vector for radioactivity from WIPP to cause problems and discussed the center's air monitoring program. He explained that high-volume air sampling conducted by the center at three separate locations near the WIPP site shows no increase in radioactive particles that can be attributed to WIPP. Mr. Conca did point out that there are somewhat higher levels of radioactive particles present in the air at different seasons, but emphasized that even the raised levels were so low that they could be characterized as background radiation. He also discussed some of the studies related to air quality that the center is conducting, such as identifying unique signatures in the various types of dust that blow in the region.

Next, Mr. Conca discussed monitoring done by the center on the area's drinking water. While he noted that it is highly unlikely that activities at WIPP could contaminate area drinking water, it is enough of a concern for citizens in the area that the center monitors water at six separate sites. Mr. Conca indicated that while monitoring shows some variations in radioactive levels that have yet to be explained, the overall levels are still remarkably low. Finally, Mr. Conca discussed the full-body monitoring the center does. He explained that the full-body counter, which is located at the center and may be the most sensitive one in the world, gauges the number of radioactive particles present in a person's body. Mr. Conca indicated that there is no significant radiation being absorbed by local residents as a result of WIPP's activities and, in fact, many of the baseline counts actually show higher levels of radioactivity than today's counts for the same individuals. He speculated that this may be because of lifestyle changes, but emphasized that it is difficult to tell because even those levels are rather low.

Questions and comments included:

- visitors to Carlsbad Caverns come out a little more radioactive than before for a short time;
- the types of filters used for air monitoring; and
- international visitors at the center.

The committee recessed at 4:50 p.m.

## **Friday, September 21**

### **Petroleum Storage Tank Requirements Imposed by the Federal Energy Policy Act of 2005: Legislative Proposal**

Jim Davis, chief of the Petroleum Storage Tank Bureau at the NMED, began by providing the committee with a brief history of petroleum storage tank regulations in New Mexico and discussed the differences and similarities between above- and below-ground storage tanks. He explained that the 2005 federal Energy Policy Act imposed several new requirements on underground storage tanks and set very tight deadlines for compliance with those requirements. Mr. Davis pointed out that while New Mexico has developed an ambitious plan for meeting the new federal requirements, some of the deadlines imposed are still not met. For instance, the requirement that all new or replaced underground storage tanks, piping or dispensers have secondary containment by February 8, 2007 was not met, but Mr. Davis noted that only five states

actually did meet the deadline. He also indicated that New Mexico would likely not meet several upcoming deadlines.

Mr. Davis went on to discuss the NMED rule revisions designed to meet the new federal requirements. He noted that his bureau had been holding stakeholder meetings to discuss the proposed rule changes and solicit feedback. Mr. Davis also provided the committee with a draft bill containing proposed statutory changes that the NMED will likely seek in the upcoming legislative session, which includes adding authority over petroleum deliverers and the ability to prohibit delivery for major violations of the rules.

Reuben Baca, executive director of the New Mexico Petroleum Marketers Association, noted that the NMED has been very open with its rule-making process at the five stakeholder meetings that have been held. He also pointed out that one of the problems with developing rules for storage tanks includes the exceptions to the rules. For example, he explained that institutions such as hospitals and correctional facilities have backup generators and storage tanks on their premises and will likely have to have some kind of exemption made in the rules for them.

Questions and comments included:

- the imposition of a time limit for claims on the Corrective Action Fund;
- why statutory changes are necessary to meet some federal requirements while others can be met through rule changes;
- retrofitting older storage tanks and facilities to come into compliance with federal laws;
- the cost of bringing all New Mexico storage tanks into compliance;
- regulation by the NMED of biodiesel and Ethanol-85 fuels; and
- emergency generation requirements.

### **Renewable Transportation Fuels**

Charles Bensinger, biofuels program manager for Renewable Energy Partners of New Mexico, provided the committee with an overview of renewable transportation fuels, particularly ethanol and biodiesel. He began by explaining how both ethanol and biodiesel are made and how much of New Mexico's fuel consumption could be replaced by the renewable fuels. Mr. Bensinger pointed out that there are several biodiesel plants either in operation or planned in New Mexico. He added that algae, a promising source for biodiesel, could potentially replace 100% of New Mexico's diesel fuel consumption. Mr. Bensinger went on to discuss the costs associated with each renewable fuel and the pros and cons linked with each. For example, he noted that corn, canola and soy, when grown to produce renewable fuel, would compete directly with food crops for land and water. Mr. Bensinger also discussed various environmental factors associated with the renewable fuels, such as the use of pesticides and water on crops and the effect ethanol and biodiesel plants may have on air quality.

Next, Mr. Bensinger discussed the infrastructure New Mexico has in place to manufacture and dispense renewable fuels and the state's role in developing the biofuels industry. He explained that there are a number of ethanol and biodiesel dispensers already operating in Albuquerque and Santa Fe, and he pointed out that there are currently 23,000 flex-fuel vehicles

already operating in New Mexico. Mr. Bensinger noted that the Rail Runner commuter train and the Santa Fe Southern Railroad are also major biodiesel consumers. He went on to emphasize that while the state's oil and gas resources are limited and nonrenewable, the state could produce enough biofuels to displace a significant portion of its petroleum use. Finally, Mr. Bensinger recommended that New Mexico provide support for biofuel production and encourage school buses to use biodiesel.

Questions and comments included:

- the potential for biodiesel to reduce school bus emissions;
- increasing health issues in schoolchildren that may be attributable to air quality in school buses; and
- use of biofuels in PNM's fleet vehicles.

### **The Algae Biodiesel Project: Report**

Doug Lynn, interim executive director for the Center for Excellence for Hazardous Materials Management (CEHMM), provided the committee with testimony regarding CEHMM's project to manufacture biodiesel from algae. He began by giving the committee a brief overview of CEHMM's history and mission, explaining that it is a nonprofit organization focused on applied research. Mr. Lynn went on to explain that part of the center's mission is to protect the environment through better management of certain materials, which led it to begin researching the use of biodiesel.

Mr. Lynn then provided the committee with a summary of CEHMM's current project involving converting algae to biodiesel. Mr. Lynn explained that one of the problems with large-scale biodiesel production is the lack of a source of economically competitive vegetable oil necessary to produce the fuel. He went on to note that CEHMM has begun to study the use of nonproductive land and brine water to produce algae, which may be capable of producing sufficient quantities of vegetable oil. While Mr. Lynn indicated that there are still some questions that need to be answered, such as development of algae strains that thrive in brine water and efficient oil extraction methods, he also emphasized that New Mexico is well-suited to this type of algae production because of the abundant land and brackish water resources located in the state. He emphasized that the economic impacts to New Mexico for a 2,000-acre algae biodiesel plant in southeast New Mexico would be beneficial.

The committee directed staff to prepare a letter to the Legislative Finance Committee and the governor supporting funding for CEHMM's algae-to-biodiesel project.

Questions and comments included:

- additives to the brine to help feed the algae;
- the effect of the DOE funding cuts on CEHMM;
- whether produced water from oil and gas exploration can be used for algae;
- the use of brine water from a well at Malaga Bend for algae production;
- the maximum size of ponds for algae growth;
- the eventual commercialization of technologies developed by CEHMM, a time line for an agreement between CEHMM and General Atomics of San Diego for

- development of algae as a source of biodiesel and a requirement that the company invest in research facilities in New Mexico; and
- the possibility that the concentration of salt in the brine water will eventually increase to the point that it will no longer be usable.

### **Potash Solution Mining**

Randy Foote and Steve McCutcheon, both of Intrepid Potash, LLC, provided the committee with an update regarding their company's planned in-situ mining project. The project will flood old potash mines with a brine solution, pumping the solution into shallow evaporating ponds and harvesting the remaining potash. They indicated that the project would require construction of 250 acres of evaporating ponds, but that it would allow the company to harvest potash that would otherwise be lost. Mr. McCutcheon and Mr. Foote went on to explain that because the potash remaining in several mines cannot be mined safely any other way, this project will allow Intrepid Potash to harvest a large amount of the substance that they would otherwise have to leave behind. They also pointed out that the company has acquired many of the old potash mines in the area for the project. However, Mr. Foote and Mr. McCutcheon noted that there are two remaining issues with the state to be resolved. The first issue involves tax determination of the evaporating pond liners, which the state contends are permanent and taxes at a higher rate. The second issue involves a ground water discharge permit from the NMED, which the agency ruled the project would require.

Finally, Mr. McCutcheon and Mr. Foote provided the committee with a time line for construction of the evaporation ponds, pumping and likely first harvests of usable potash. They also noted that they may increase the salt levels in the solution pumped into the mines to help control its salinity.

Questions and comments included:

- that the industrial revenue bond passed by Eddy County was helpful for the tax issue;
- differences in the way potash is taxed in New Mexico as opposed to other types of mined commodities;
- property taxes are the only taxes levied against potash mines;
- the impact the potash mining industry has on the economies of Eddy and Lea counties;
- the amount of time it has taken for the Taxation and Revenue Department to make a determination regarding the property tax for the mine;
- the amount of time it will likely take the NMED to resolve the issue of the ground water discharge permit;
- an argument that the evaporation pond liners will not leak, negating the need for the ground water discharge permit;
- the amount of time it will take to mine all of the potash out of the mines that Intrepid Potash currently controls;
- other potash mining companies using similar techniques; and
- other permits required for the project to continue.

Staff was directed to schedule a report from the potash industry for a committee meeting next interim.

Representative Heaton thanked the committee members, presenters and the public for their participation in the meeting.

There being no further business, the committee adjourned at 12:10 p.m.

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

**October 29, 2007**  
**Cibola County Convention Center**  
**515 West High Street**  
**Grants, New Mexico**

**October 30, 2007**  
**Tour of Uranium Mining Sites**  
**Grants, New Mexico**

The fifth meeting of the Radioactive and Hazardous Materials Committee (RHMC) was called to order by Representative John A. Heaton, chair, at 10:00 a.m. on October 29, 2007 in the Cibola County Convention Center in Grants, New Mexico.

**Present**

Rep. John A. Heaton, Chair  
Sen. Richard C. Martinez, Vice Chair  
Rep. William J. Gray  
Sen. Gay G. Kernan  
Rep. Antonio Lujan  
Rep. Jim R. Trujillo

**Advisory Members**

Sen. Rod Adair (10/29)  
Rep. Thomas A. Anderson  
Sen. John Pinto (10/29)  
Rep. Jeff Steinborn

**Guests**

Rep. Ernest H. Chavez  
Rep. Nathan P. Cote (10/30)  
Rep. Justine Fox-Young (10/29)  
Sen. Lynda M. Lovejoy (10/29)  
Rep. Patricia A. Lundstrom (10/29)  
Rep. W. Ken Martinez (10/29)  
Rep. John Pena  
Sen. Lidio G. Rainaldi (10/29)

**Absent**

Sen. Vernon D. Asbill  
Sen. John T.L. Grubestic  
Sen. Carroll H. Leavell  
Rep. Jeannette O. Wallace

Rep. Donald E. Bratton  
Sen. Mary Jane M. Garcia  
Sen. William H. Payne  
Rep. Nick L. Salazar  
Rep. Peter Wirth

Sen. David Ulibarri (10/29)  
Rep. Gloria C. Vaughn

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

**Staff**

Evan Blackstone  
Chase Van Gorder  
Aldis Philipbar

The guest list is in the original meeting file.

**Monday, October 29**

Representative Heaton began the meeting by having committee members and guests introduce themselves. Joe Murrietta, mayor, City of Grants, welcomed the committee to Grants and stated he is looking forward to an informative discussion on uranium mining. He informed the committee that he worked for Anaconda for 15 years and that many things have happened over the past 20 to 30 years with regard to environmental and health improvements in the uranium mining industry. He went on to point out that uranium mining companies are more responsible now and that he is looking forward to the economic benefits that a renewal of the uranium industry would bring to Grants.

Representative Martinez then welcomed the committee to Grants and stated that he is glad the committee is willing to listen to all sides in the debate to renew uranium mining in the area.

Elmer Chavez, chair, Cibola County Commission, welcomed the committee and stated that it is essential that the uranium resources located in Cibola County be developed in order to provide a secure domestic source of energy. He provided the committee with a resolution passed by the Cibola County Commission in July 2007 that supports the domestic uranium mining and milling industry. Mr. Chavez indicated that he is confident that uranium mining can be conducted in a safe manner and that it will bring jobs to the area and enhance the quality of life in New Mexico.

Representative Heaton stated that climate change is a tremendously important issue to the nation and the world. The amount of carbon emissions produced by China has surpassed that of the United States, and the events occurring due to climate change are shocking. Representative Heaton pointed out that there has been a significant change in the amount of carbon dioxide in the atmosphere. It is necessary, Representative Heaton said, that the background discussion be underlined with the issue of climate change because it will impact the world in a very dramatic way.

**Uranium Mining Legacy, Regulation and Cleanup: Past, Present and Future**

John Goldstein, director, Water and Waste Management Division, Department of Environment (NMED), provided the committee with an overview of uranium mining and processing regulations in New Mexico. He discussed the various methods of uranium mining,

including underground mining, open pit mining and in situ leach (ISL) mining. He explained that the Mining and Minerals Division of the Energy, Minerals and Natural Resources Department (EMNRD) has regulatory authority over uranium exploration activities and underground and open pit mining pursuant to the New Mexico Mining Act. The NMED has regulatory authority over underground mining, open pit mining and ISL mining pursuant to the New Mexico Water Quality Act. The federal Nuclear Regulatory Commission (NRC) also has regulatory authority over ISL mining.

Mr. Goldstein went on to inform the committee that currently the NMED has no permit applications pending for ISL mining in New Mexico and one permit application pending for the Mount Taylor mine. The permit for the Mount Taylor mine is for ground water discharge, which is required for facilities that have the potential to impact ground water. Mr. Goldstein stated that the permit for the Mount Taylor mine is administratively complete and the NMED is seeking further technical information from the applicant on its proposed alternative water treatment method. Mr. Goldstein also pointed out that there will be a public process phase to the permit that will include tribal consultation. Although no ISL mining permits are pending, Mr. Goldstein explained that in addition to a ground water discharge permit, ISL requires an underground injection control permit from the NMED and an aquifer exemption from the NMED, the Water Quality Control Commission and the United States Environmental Protection Agency (EPA). A significant issue, he emphasized, is whether certain surrounding Indian lands in northwest New Mexico are under state jurisdiction. Finally, Mr. Goldstein outlined for the committee the permit categories pursuant to the New Mexico Mining Act for mining operations and exploration.

Bill Brancard, director of the Mining and Minerals Division of the EMNRD, reviewed the legacy of uranium mining and milling in New Mexico. He described the uranium deposit locations in New Mexico and stated that during and following the previous uranium mining boom in New Mexico most uranium mines operated and closed with no reclamation requirements or guidelines. However, since the 1980s, several federal, state and tribal agencies have pursued cleanup and reclamation of contaminated sites under various laws. Mr. Brancard pointed out that the responsibility for cleanup depends on who is benefitting from the sale of uranium: the government or the industry. For example, some seriously contaminated sites have been declared Superfund sites under the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), which requires action by the EPA. Also, the federal Surface Mining Control and Reclamation Act of 1977 (SMCRA), originally enacted to deal with coal mines, allows funding for the cleanup of old mines and it has been used to help cleanup of uranium mines.

Next, Mr. Brancard reviewed for the committee the uranium mine inventory project conducted by the Mining and Minerals Division of the EMNRD. He explained that the purpose of the project is to identify abandoned and inactive uranium mines with historic production, to establish the status of uranium mines and to identify mining sites where no reclamation activities have occurred. Mr. Brancard described that the project consists of a two-step process. First, it will use existing data to create an inventory of mines with verifiable production and reclamation status. Second, the division will inspect sites with no reclamation to determine the need for future reclamation work. Mr. Brancard informed the committee that the division completed step one of

the project and identified over 250 mines with historic uranium production in New Mexico and identified over 100 mines with no information on reclamation activities. In the second step of the project, the division will conduct site assessments of identified sites with unknown or no reclamation history, characterize the nature of the site, determine the extent of disturbances and use the information to begin prioritizing cleanup and estimating reclamation costs. He also reiterated the problem with the checkerboard area around Indian land and said that there are differing ideas about jurisdiction between state agencies.

Stephen B. Etsitty, executive director of the Navajo Nation Environmental Protection Agency (NNEPA), stated that the legacy of uranium mining has adversely affected the air, land and water resources on the Navajo Nation, has taken a devastating toll on Navajo human health and will affect the Navajo people for generations to come. Mr. Etsitty emphasized that the Navajo people do not have the option of relocating to unpolluted land and changing their way of life. He stated that they expect their polluted lands to be restored, the uranium waste piles to be removed, their sources of water to be clean and their air to be as pristine as it was before the mining. Mr. Etsitty pointed out that many tribes in New Mexico share the Navajo Nation's concern about uranium mining. Mr. Etsitty inquired why interest in another round of mining takes precedence over human health. He questioned whether a state or federal agency will step in if a mine owner walks away.

Mr. Etsitty informed the committee that throughout his tenure he has personally visited several communities where pollutants have migrated from abandoned uranium mines, capped uranium tailings and uranium waste piles. He emphasized that some of the abandoned uranium mines and waste piles are located on adjoining state, federal and private lands and nothing prevents the migration of hazardous pollutants from one jurisdiction to another. Mr. Etsitty explained that the Navajo Nation has mitigated the physical features of some abandoned uranium mines to prevent access and to provide some measure of physical safety. However, erosion has compromised the integrity of the soil barriers so that radioactive hazardous substances beneath the soil barriers are being released into the air, land and water. Despite the Navajo Nation's efforts to have various entities address the contaminated sites, he stated, it is doubtful that resources will become readily available to ensure long-term operation and maintenance at problem sites.

Mr. Etsitty urged committee members to establish sources of cleanup funds and create a state equivalent of CERCLA. He encouraged members to determine whether uranium mine owners and operators submitted reclamation plans pursuant to the New Mexico Mining Act and to share the plans with the NNEPA on mines that affect the Navajo Nation. Mr. Etsitty also advocated that the reclamation plans provide long-term operation and maintenance to prevent hazardous substance releases and order the implementation of the plans with joint oversight by the NNEPA and the state. Finally, he emphasized that the NMED and the Mining and Minerals Division of the EMNRD should not make unilateral decisions where Navajo Nation jurisdiction may be impacted. Rather, the Navajo Nation and the state should agree to exercise meaningful government-to-government relations so their joint efforts will have long-term benefits.

Laura Watchempino, water quality specialist for the Acoma Water Commission, said that the area being considered for mining is sacred to the Acoma people. She said that the Pueblo of

Acoma is a certifying agency and that the pueblo has set its own water quality standards for radioactive substances.

Questions and comments included:

- proper jurisdiction in the Churchrock area to perform reclamation and duties of various federal and state regulatory agencies on trust land;
- clarification of checkerboard areas;
- current reclamation standards pursuant to the New Mexico Mining Act and requirements for financial assurance in case of default;
- NMED requirements for financial insurance for restoring ground water and Navajo Nation requirements;
- the length of time for the permitting process, requirements for public hearing and time spent looking at existing quality of ground water to establish baselines and what kind of financial assurance will be required;
- state requirements that permits be consistent and have at least one year of baseline data;
- Mining and Minerals Division encourages companies to submit one large application that will meet all agency requirements and works closely with other agencies to deliver consistent decisions;
- lands in the checkerboard area that the Navajo Nation claims are Indian country and where the Navajo Nation asserts jurisdiction;
- future mines will be permitted under very strict rules in order to prevent contamination;
- the state version of SMCRA and restrictions placed on funding for cleanup by the federal government;
- funding proposals by state agencies for cleanup of uranium contamination;
- the need for people who caused the uranium contamination to take responsibility for their actions;
- concerns of people who are against uranium mining, including impacts to the environment and health;
- the need for the state to protect people who live near uranium mining activities and use the ground water;
- uranium exploration permits that have been granted;
- conventional mining being proposed at Mount Taylor;
- cleanup occurring at former mill sites that are Superfund sites; and
- risk in drilling exploratory holes.

### **Uranium Mining Industry Update**

George Byers, vice president of public affairs and communications for Neutron Energy, Inc., informed the committee that Neutron Energy is a privately held company that holds extensive uranium properties with reserves proven in the 1950s through the 1980s in the Grants region. Mr. Byers stated that New Mexico is where his company has placed its emphasis, not just because of the resources in the ground, but because of the skilled workers in the region who are ready to go to work again in the industry. He pointed out that the United States needs more energy and that nuclear energy can provide the nation with the energy it needs without further harming the climate

and without putting the economy in jeopardy. Mr. Byers indicated that there is the initial likelihood that four to six new underground uranium mines will be developed from the area of the Cebolleta Land Grant and the Juan Tafoya Land Corporation east of Mount Taylor, to the region north of Grants from San Mateo to west of Ambrosia Lake. He pointed out that at Juan Tafoya and Cebolleta, the land grants have already seen income in the form of bonus and rental income as well as the commencement of annual scholarship payments by Neutron Energy to deserving students from each land grant. Mr. Byers emphasized that the northwest region of New Mexico needs rural economic development and the leaders in the area know that uranium mining will bring safe and well-paying jobs with benefits from closely regulated industries.

Rick Van Horn, executive vice president and chief operating officer for Uranium Resources, Inc. (URI), provided the committee with URI's outlook on the future of uranium mining in New Mexico. He began by briefly reviewing New Mexico's past uranium production, the current state of the market and world demand for uranium. Mr. Van Horn stated that over the past three years there has been an unprecedented increase in the price of uranium, yet not one dollar has been made from uranium production during this price cycle. Mr. Van Horn said that uranium is never a balanced market, but the world forecast looks promising and New Mexico can be at the forefront of the uranium mining resurgence. Uranium mining, Mr. Van Horn indicated, will provide 200 jobs in Grants and potentially 3,000 to 4,000 jobs in the uranium mining district. Grants was a world leader during the first uranium boom and current estimates are that 200 to 300 million pounds of uranium are in the ground in New Mexico.

Mr. Van Horn then reviewed for the committee URI's operations, properties, assets and plans for future uranium development in New Mexico. He stated that URI entered into a definitive agreement with BHP Billiton to acquire 100% ownership of Rio Algom Mining, LLC, which includes an NRC-licensed mill site and associated water rights at a price of \$110 million at closing and a \$16.5 million contingent payment. Mr. Van Horn pointed out that the mill site is currently the only NRC-licensed conventional mill site in New Mexico that reduces the time needed to build a new conventional uranium mill. Furthermore, the mill site is in the final stages of reclamation and infrastructure and facilities are already on the premises. The new Ambrosia Lake mill could be operational in four to five years, whereas new mills usually take eight to 10 years. With regard to economic impacts, Mr. Van Horn explained that the new mill will provide more than 200 jobs to local residents and open the door for an even greater industrywide impact on the state of New Mexico. With regard to environmental impacts, he noted that the new mill will be built in the footprint of the old mill and the tailings will be dry placed in double-lined, leak-detection cells. Mr. Van Horn emphasized that modern uranium mining in New Mexico will be drastically different from the past due to more stringent regulatory standards, additional environmental safeguards and new employee safety measures that are in place.

Finally, Mr. Van Horn summarized the ISL mining process. He stated that ISL mining is a non-invasive recovery method because uranium is mined in place by reversing the natural deposit process. Existing uranium-bearing ground water is fortified with oxygen to draw uranium into the solution and then the uranium is removed from the solution onto resin beads through an ion exchange column. Mr. Van Horn pointed out that the ground water is restored to pre-mining conditions and that there is little surface or environmental impact. Addressing ground water

issues, Mr. Van Horn noted that the ground water around commercial uranium deposits is naturally toxic and unsafe to drink. He explained that the ground water will still be toxic and unsafe to drink after mining ends and restoration is complete, noting that ground water will always meet the same EPA drinking water standards it met before mining began.

Douglas B. Chambers, Ph.D., executive vice president for SENES Consultants Limited, discussed environmental and health issues relating to uranium mining and radioactivity. He began by summarizing the different kinds of natural radioactivity in the environment, background levels of radiation and the average radiation doses from natural sources. Next, Mr. Chambers informed the committee that the health effects of ionizing radiation are well understood, citing the work of scientific committees such as the United Nations Committee on the Effects of Atomic Radiation (UNSCEAR) and the Biological Effects of Ionizing Radiation Committee (BEIR). He summarized some of the key observations from the recent BEIR and UNSCEAR work and noted that radiation exposure has never been demonstrated to cause hereditary effects in people but it is prudent to assume that it occurs in people. Moving to the radiological effects of uranium mining, Mr. Chambers explained that modern mining practices ensure that radiation doses to workers are low and well below regulatory criteria. He also said modern mining practices ensure that radiation doses to members of the public are low, well below regulatory criteria and within the range of variation in natural background.

Paul Pierce, manager of mine development for Uranium Energy Corp., provided the committee with a review of current mine safety standards in the uranium industry. He began by giving a brief history of the discovery of uranium in New Mexico and then went on to say that a 1967 study showed that there are between 20 to 60 working levels of radiation exposure. He explained that mining systems have become more sophisticated today and permissible levels of exposure for any individual are less than four per year. To lessen exposure, ventilation is redirected to wash out an area with exposure levels above standards or miners are removed from the area. Furthermore, the state requires the removal of miners in areas with exposure above the 1.4 level. Mr. Pierce noted that mining sites are now much healthier because of better engineering, advanced mining technology and because miners are well-trained and know their rights.

Questions and comments included the following:

- how the fluctuation in radiation exposure levels depends on the types of ore being handled by miners;
- the NRC licensing process, NRC regulations and the consistency with the NMED regulations;
- levels of harmful radiological exposure;
- the need for nuclear energy in the United States and uranium companies investing in New Mexico;
- the chances of a joint venture with Japanese uranium companies;
- the cost of uranium and associated costs with conventional and ISL mining;
- the Navajo Nation ban on uranium mining and the intent of uranium mining companies to respect the ban;

- the willingness of the uranium mining industry to support the creation of a fund that will be set up to take a percentage or fixed cost of uranium extracted and divert the money to fund reclamation;
- the extent of ground water contamination risks in ISL mining and the monitoring technology used; and
- the duty of a county to report levels of uranium in drinking water to citizens.

### **Environmental Impacts Associated with Uranium Mining and Milling**

Richard Abitz, Ph.D., president and owner of Geochemical Consulting Services, provided the committee with testimony regarding the impacts of conventional and ISL uranium mining on human health and the environment. First, Dr. Abitz reviewed the uranium fuel cycle, explaining that the extraction of uranium and the conversion process to nuclear power has massive energy impacts that do produce greenhouse gases and that there is not a final disposal site for spent fuel rods. He went on to state that underground, open-pit mines discharge billions of gallons of contaminated mine water. Furthermore, Dr. Abitz described the process of milling uses acids or caustics to recover uranium and there are surface spills, leakages of contaminated fluids from unlined tailings piles and extensive ground water contamination. He noted that there is a legacy of ground water contamination at all active uranium mill tailings sites in New Mexico. Dr. Abitz emphasized that the active remediation techniques are ineffective given that contamination remains after 25 years. In addition, he stated, natural reduction and attenuation are not working.

Dr. Abitz then discussed ISL mining. He said ISL mining is based on the idea that water flow is homogeneous, meaning it all flows in the same direction and can be collected in one area. However, water actually flows in all directions and is heterogeneous. Dr. Abitz provided the committee with an overview of paleochannels, stating that it is difficult to control mine fluids in paleochannels during production. He explained that undetected mine fluids migrate outside the mining zone, so restoration to pre-mining water quality is virtually impossible. Furthermore, the uniform monitor well spacing used by the uranium industry is too wide to detect all excursions of mine fluids. Dr. Abitz touched on the ISL experience in Texas, summarizing that restoration to a pre-mining baseline was not achieved and the restoration was only certified after a substantial relaxation of standards. Dr. Abitz stated that the claim made by the uranium industry that ground water around uranium deposits is toxic is not always true. He emphasized that a pre-mining baseline must be established in a scientifically ethical manner and the improper calculation of average water quality, as evidenced by HRI's activities at Crownpoint, inflates the pre-mining baseline. Nevertheless, he pointed out, restoration to pre-mining quality is not possible because the natural geochemical conditions have been destroyed.

Dr. Abitz concluded by stating that ground water contamination is a long-term consequence of uranium mining and milling, cleanup has not been accomplished at conventional mill sites in 25 years and ISL mining is incompatible with high-quality aquifers like the Westwater Canyon.

Mark Pelizza, vice president of environmental regulatory affairs for URI, said that he disagrees completely with Dr. Abitz's analysis of ISL mining. He said that water around uranium is not suitable for drinking and will never be suitable, with or without mining. Mr. Pelizza

explained that there are very good reasons as to why water is not restored to pre-mining quality, including varying state requirements. Mr. Pelizza said that no mine is closed unless analysis of ground water is completed.

Questions and comments included the following:

- the NRC, which is in the business of issuing licenses, is not an independent scientific entity; and
- clarification and complexity of paleochannels and water moving through different levels to flush out contaminants.

### **Health Impacts of Low-Level Environmental Uranium Exposure**

Dr. Johnnye Lewis, director of the Community Environmental Health Program at the University of New Mexico Health Sciences Center, provided the committee with testimony regarding the chemical toxicology of uranium and New Mexico populations. Dr. Lewis stated that uranium damages kidneys and New Mexico populations are at risk for kidney disease due to a high prevalence of diabetes and a high prevalence of chronic renal insufficiency with early onset and increased severity. Dr. Lewis reviewed for the committee what is known about occupational exposures to uranium and explained that lung cancer is the primary health risk in miners. She explained that it is not smoking-related but rather primarily the result of working underground, poor ventilation and high dust from radon. Dr. Lewis also summarized what is known from laboratory studies and population studies about uranium kidney toxicity. She informed the committee that Native American and Hispanic populations may be more susceptible to toxic results due to preexisting diseases like diabetes. In Native American communities, consumption of local food leads to increased exposure. Dr. Lewis said that small children have more long-lasting effects because of increased gastrointestinal absorption and developing kidneys.

Dr. Lewis went on to explain that the first community study of kidney health in populations at risk for kidney disease began in 2003. Since then, studies have looked into the potential cancer effects of uranium metal, neurotoxicity, oxidative stress and immunosuppression and autoimmunity. She then discussed the DiNEH Project, which is the first community health assessment in the uranium district for a population at risk for kidney disease. It is a comprehensive community-based assessment of 20 chapters of the Eastern Navajo Agency. The project includes both exposed and unexposed chapters and is a comprehensive assessment of exposure, health, occupational history, modifying factors and disease. She said that this is the first look at the correlation between uranium exposure and kidney disease. Finally, she noted that the preliminary model results are a very early look at the data and they indicate that exposure alone is not significant. However, Dr. Lewis emphasized there is much refinement to do and not all factors have been incorporated into the modeling.

### **Uranium Mining: Tribal Governments Perspective**

Navajo Nation Vice President Ben Shelly asked the committee members how the federal government can allow another generation of contamination when the Navajo people are still suffering. He stated that uranium mining poses a threat to the aquifer that the Navajo people rely on for drinking water and that the Navajo Nation demands that federal agencies begin cleanup of contaminated sites. Mr. Shelly pointed out that many Navajo citizens are not receiving

compensation for past injuries and health problems due to uranium mining because they cannot establish residency under the Radiation Exposure Compensation Program (RECA). He explained that RECA requires documentation that many Navajos do not have and the process is taking too long. He noted that new data is needed to determine how many Navajos have been impacted by uranium mining. Mr. Shelly also informed the committee that there are various sites of unauthorized dumping that need to be evaluated and cleaned. Finally, he emphasized that the Navajo Nation's ban on uranium mining was a legislative process and that the mandate is that there will be no mining on the Navajo Nation.

Charles Long, legislative staff assistant to the speaker of the Navajo Nation Council, appeared on behalf of Speaker Lawrence T. Morgan. Mr. Long stated that uranium mining is a great concern of the Navajo Nation and especially a major concern of Speaker Morgan and the Navajo Nation Council. He informed the committee that many Navajos who have worked in mines have developed health problems, have enormous medical bills and very few have been helped by RECA. It was because of these problems, Mr. Long explained, that the Navajo Nation Council passed legislation prohibiting uranium mining on any sites within the Navajo Nation. Mr. Long said that Speaker Morgan believes that ISL mining has not been determined a safe method and that, if ISL operations are allowed to move forward, it would jeopardize the health of many Navajo families who have homes in the Ambrosia Lake area. Mr. Long went on to note that Speaker Morgan states that his office will not even discuss uranium mining issues with uranium companies until it has been determined that uranium mining is safe and a cure is found for cancer.

Ms. Laura Watchempino provided the committee with testimony on behalf of Governor Jason Johnson of the Pueblo of Acoma. She informed the committee that the pueblo has been closely studying the impact of uranium. She said the committee has a heavy responsibility and she hopes the committee does not overlook the water that the mountain provides for various tribes and peoples. Ms. Watchempino said that rivers and creeks dried up after previous uranium mining booms and the pueblo faced raised levels of dried contaminates. There was no dilution factor because there was no upstream water flow. She urged the committee to look at independent studies as opposed to industry reports and to carefully consider a generic environmental impact statement because each area is unique.

John Antonio, governor of the Pueblo of Laguna, informed the committee that the pueblo is absolutely against any proposals to resume uranium exploration and mining activities in the Grants uranium belt or anywhere near Indian country. The Tribal Council for the Pueblo of Laguna passed a resolution in opposition to New Mexico Senate Joint Memorial 10, which called for the NMED and EMNRD to collaborate with the uranium industry to resolve existing barriers and to advance consideration of uranium production in New Mexico. The pueblo operated one of the largest open pit mines in the world from 1953 to 1982. Governor Antonio pointed out that 54 years have passed and the pueblo is still dealing with the effects of mining activities. He stated that a lack of regulations forced the pueblo to establish its own environmental regulations and requirements. Reclamation work began in 1989 and was completed in 1995 at a cost of over \$43 million. Governor Antonio said that the impact of mining activities will continue to be felt long into the future. For example, surface and ground water will continue to have traces of uranium,

vegetation will need continued monitoring for heavy metals and the pueblo has seen an increase in instances of cancer and birth defects.

### **Uranium Mining: Community Perspectives**

Star Gonzales, Cibola Communities Economic Development Foundation, said that uranium companies will work for Cibola County and that the industry will provide new jobs and educational opportunities and will bring in new businesses. She said that uranium mining is a great way for people in the community to make a good wage. She emphasized that there is an optimistic air in the community due to the prospect of uranium mining resuming and that the community is very much in support of the industry. Ms. Gonzales also explained to the committee that nuclear energy and uranium production is a solution to the nation's energy problems as well as climate change. She noted that the community will work closely with state and federal agencies to ensure that uranium activities will be safe.

Milton Head, speaking on behalf of the Bluewater Valley Downstream Alliance, provided the committee with data on the identified environmental effects on ground water in the Grants mineral belt. He said that contaminated water covers 45 square miles around the Homestake uranium mill site near Milan and primarily affects domestic users southwest of the mill site. Mr. Head reviewed the production of the mill site and the results of a 1975 study conducted by the EPA on the impact of mining and milling discharges in the area. He stated that the study revealed that pollution from uranium tailings is in the alluvial aquifer and four Chinle aquifers and that it also appears to be in the San Andreas Aquifer. Mr. Head pointed out that all of these aquifers must be cleaned of pollution and restored back to usable drinking water quality. He noted that the progression of the pollutants has greatly expanded over time, moving closer to municipal-supply wells, and it is happening in spite of reclamation efforts. Data from three of the five uranium mills in the Grants area revealed that, due to the use of unlined tailings ponds, 60,825 acre-feet of contaminated water had seeped into various aquifers. The water discharge for the Ambrosia Lake mine has been in excess of 514,389 acre-feet of contaminated water entering into surface drainage. Mr. Head said that a conservative estimate of total mine and mill discharge is in excess of 575,389 acre-feet of contaminated water has entered the soils and waters in the area. Mr. Head emphasized that remediation would require enacting new legislation that identifies tailings as pollutants, funding the NMED adequately, establishing field offices, identifying characteristics of contaminated alluvial aquifers, establishing an adequate monitoring system and designing and implementing a remediation program. Furthermore, he said, the Homestake and Anaconda sites should be moved to below grade, with lined ponds that are not located above an alluvial or shallow aquifer. Mr. Head concluded by stating that pollution problems must be prevented in the next round of uranium development.

Leona Morgan, a representative of the Eastern Navajo Dine Against Uranium Mining (ENDAUM), said ENDAUM was founded in 1994 after a founder noticed that some experimental ISL mining at a mine site was causing contamination. Ms. Morgan said that statements that water used in ISL is already contaminated and not used for consumption are untrue. ENDAUM is concerned for the future well-being of people, animals and the environment. She emphasized that Mount Taylor is a sacred site of the Navajo people and that uranium mining activities should not take place on that site. She asked that committee members and the uranium industry respect the

sacredness of Mount Taylor. Ms. Morgan also pointed out that ENDAUM has fought the uranium industry for nine years and it will continue its work in protecting water sources. She said over 1,000 abandoned mines are located on the Navajo Nation and they are having an effect on the health of the people and the animals as well as the land. Finally, Ms. Morgan indicated that New Mexico needs to look to other forms of sustainable energy like wind and solar power rather than nuclear energy.

### **Uranium Mining: Local Government Perspectives**

Ernest Bicenti, commissioner, McKinley County Board of County Commissioners, said that the uranium industry touches people at local, national and global levels. He said the uranium industry will benefit the state by bringing in revenues. New Mexico is not a rich state, so its people have to consider what resources would be used beneficially and safely. Mr. Bicenti said he is sure the committee members will make the right decision as they were elected to look out for the people.

### **Public Comment**

Ben House, president of the Eastern Navajo Allottee Association, told the committee that allottees have the right to develop their land. He said the Navajo Nation has a 50% unemployment rate and that those who oppose uranium do not pose an alternative. Mr. House said he will support the uranium industry as long as they protect the environment and the health of the people. He believes the industry will bring about economic benefits and restore the livelihood of the people.

Linda Evers, a member of the Post 71 Workers Committee, said that her organization is in the process of running surveys in 20 states. They have received over 200 responses from Grants. All of the responders are sick: 75.8% have cancer and 92% have genetic problems with their children. She said she understands that jobs are needed, but the legislature should consider clean, renewable energy.

Paul Robinson, research director at the Southwest Research and Information Center, said that there is not a shortage of uranium in the ground around the world and that New Mexico does not have a unique source. Wind and solar energy are the true goldmines of New Mexico. He said the price of uranium has dropped 40% in the last three months and it is not a stable resource.

Abe Medina and Israel Martinez informed the committee that they both worked in the mines during the previous uranium boom. Both have been plagued by illness and health problems since that time.

Andrew Leo Lopez, a lobbyist for the Cañoncito Band of Navajo who reside on the To'hajiilee Reservation, said the band is opposed to uranium mining. He said that the band led the way in prohibiting uranium mining and milling on Navajo land. Mr. Lopez stated they are not opposed to economic development, but they are not going to glow in the dark to make a buck. Radon gas is carcinogenic and there is no vaccination for radon ingestion.

John Boomer, a resident of the Navajo Nation for 40 years, lives two miles from the Homestake site. He said the uranium mining industry has had a poor record in the past and has not shown much sign of improvement.

Robert Salazar, a uranium driller from 1969 to 1980, said that no one has discussed the drillers who were contaminated.

June Lorenzo was part of a governor's task force that looked at making New Mexico livable. She said that New Mexicans must think about sustainable development and that uranium is not a renewable resource.

There being no further business, the committee recessed at 7:30 p.m.

**Tuesday, October 30**

The committee took tours of the Homestake Mining Company's reclamation project near Milan and of the Rio Algom uranium mill site near Ambrosia Lake, which is scheduled to be acquired by URI.

There being no further business, the committee adjourned at 2:30 p.m.

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

**November 26, 2007  
Room 321, State Capitol  
Santa Fe**

The sixth meeting of the Radioactive and Hazardous Materials Committee (RHMC) was called to order by Representative John A. Heaton, chair, at 9:15 a.m. on Monday, November 26, 2007, in Room 321 of the State Capitol in Santa Fe, New Mexico.

**Present**

Rep. John A. Heaton, Chair  
Sen. Richard C. Martinez, Vice Chair  
Sen. Vernon D. Asbill  
Rep. William J. Gray  
Sen. John T.L. Grubestic  
Sen. Carroll H. Leavell  
Rep. Jim R. Trujillo  
Rep. Jeanette O. Wallace

**Absent**

Sen. Gay G. Kernan  
Rep. Antonio Lujan

**Advisory Members**

Sen. Rod Adair  
Rep. Thomas A. Anderson  
Sen. John Pinto  
Rep. Nick L. Salazar  
Rep. Jeff Steinborn

Rep. Donald E. Bratton  
Sen. Mary Jane M. Garcia  
Sen. William H. Payne  
Rep. Peter Wirth

**Staff**

Evan Blackstone  
Aldis Philipbar

**Guest List**

The guest list is in the original meeting file.

**Monday, November 26**

**Committee Business**

Representative Heaton began the meeting by discussing the two pieces of proposed legislation that the committee will consider for endorsement. The first bill enacts the Uranium Legacy Cleanup Act and establishes a fund that will be used to provide financial assistance for the cleanup of uranium mining legacy sites that are contaminated. The bill creates a source of

revenue for the fund by imposing a surtax on uranium extraction. The second piece of legislation, a memorial, urges the United States Department of Energy and the United States Congress to allow for the disposal of greater-than-class-C (GTCC) low-level radioactive waste in the Waste Isolation Pilot Plant (WIPP).

### **Recommendations of the Clean and Diverse Energy Advisory Committee (CDEAC) to the Western Governors**

Sarah Cottrell, energy and environment advisor to the governor, reviewed for the committee the CDEAC recommendations and what actions the governor is taking in New Mexico pursuant to the recommendations. She began by explaining that the Western Governors' Association (WGA) represents the governors of 19 states and three United States Pacific Islands. The WGA was convened to address important policy and governance issues in the West and advance the role of the western states in the federal system. The WGA focuses on natural resources, the environment, human services, economic development, international relations and state governance. The goals of the WGA include bringing 30,000 megawatts of clean energy to the West by 2015, increasing energy efficiency by 20 percent by 2020 and meeting transmission needs over the next 25 years. The CDEAC and seven task forces were formed to develop a plan to meet these goals. Ms. Cottrell said that the CDEAC developed 51 recommendations, and she believes that the goals of the governors will be able to be met and exceeded.

Ms. Cottrell explained that in November 2007, Governor Richardson issued an executive order announcing statewide energy efficiency goals. Among other things, the executive order sets statewide targets consistent with the CDEAC recommendations. Ms. Cottrell stated that the overall budget for the plan was estimated to be approximately \$30 million. She added that the lack of emphasis on nuclear power reflects the mixed feelings among WGA members about the future of nuclear energy in the United States.

Questions and comments included:

- regulatory hurdles;
- concern about energy efficiency in buildings leased by state government;
- costs for items included in the governor's budget;
- issues with transmission line lawsuits; and
- penalties for not meeting energy efficiency standards.

Joanna Prukop, secretary of energy, minerals, and natural resources, informed the RHMC of recent events on the federal and state levels regarding uranium mining and cleanup. She stated that, recently, she testified before the United States Senate Committee on Energy and Natural Resources in Washington, D.C. She informed the United States Senate committee that there are over 15,000 non-coal mine sites in the West that need cleaning up, and she encouraged committee to allow the use of abandoned mine funding for uranium reclamation. Secretary Prukop also explained to the RHMC that her department is in the process of taking an inventory of uranium mining and milling sites in New Mexico that require reclamation; however, she noted that there is not much reclamation occurring either due to lack of funding or because sites are ignored. She emphasized that legacy site reclamation funding issues need to be addressed from

a variety of directions. Secretary Prukop went on to describe some problems associated with in situ leach extraction mining.

### **Solar Electricity Generation**

Dr. Thomas Mancini, concentrating solar power program manager, Sandia National Laboratories, began by reviewing for the RHMC the various applications of solar energy. Its distributed uses include heating and cooling, domestic hot water and rooftop photovoltaic electricity, while large-scale uses include utility scale power. Dr. Mancini explained that concentrating solar power allows tailored design approaches for central and distributed power generation. Concentrating solar power has demonstrated high capacity factor dispatchable power with thermal storage or hybridization, 130 plant years of commercial operation and 80 megawatts per year of production and installation capacity. He went on to state that the current bid costs are in the range of \$.12 to \$.16 per kilowatt hour.

Dr. Mancini also discussed the varying capacities between commissioned solar plants and the value of storing solar power. He noted that storage and hybridization provide decoupling of energy collection and generation and lower costs because storage is less expensive than incremental turbine costs. Dr. Mancini emphasized that New Mexico has the potential for more than 2000 megawatts of concentrated solar power capacity, and with new transmission, the state could export large amounts of clean energy.

### **Plug-In Hybrid Cars**

Roger Duncan, deputy general manager, Austin Energy, began by stating that the purpose of the Plug-In Partners campaign is to demonstrate a national market for flexible-fuel plug-in hybrid electric vehicles (PHEVs). He said that there are several advantages to using electricity for vehicles. For example, the cost of electricity compared to gas is less than \$1.00 per gallon of gasoline. Furthermore, the infrastructure is already in place, there are no emissions and multiple renewable fuels can be used, including solar and wind. Mr. Duncan explained that PHEVs use the same technology as the hybrids on the road today, but have a more powerful battery that can be recharged in a standard home outlet. The battery pack can power the vehicle from 20 to 60 miles on the battery charge alone and holds a six- to eight-hour charge, depending on the design. With mass production, the cost of a PHEV battery will only add \$2,000 to \$3,000 to the cost of a conventional hybrid.

Mr. Duncan also discussed the drive trains for PHEVs. He stated that series hybrids use only their internal combustion engines to generate electricity, while parallel hybrids use both an internal combustion engine and an electric motor to drive the wheels. PHEV technology can be used for sedans, vans, SUVs, shuttle buses, school buses and medium- to heavy-duty trucks.

Questions and comments included:

- the length of the battery charge for PHEVs;
- the weight and power of PHEVs;
- how heat and air conditioning function in a PHEV; and
- where batteries are placed in PHEVs.

## **Committee Business and Consideration of Legislation**

On a motion made, seconded and unanimously approved, the minutes of the October 29-30, 2007 meeting were approved as submitted.

On a motion made by Senator Leavell and seconded by Senator Asbill, the committee unanimously endorsed the memorial urging the United States Department of Energy and the United States Congress to allow for the disposal of GTCC low-level radioactive waste at WIPP. On a motion made by Senator Asbill and seconded by Representative Gray, the committee unanimously endorsed the bill enacting the Uranium Legacy Cleanup Act upon the condition that amendments be made to the surtax provisions to reflect that the surtax shall be imposed at an amount equal to the greater of two percent on the taxable value of uranium or \$1.00 per pound of uranium.

## **Nuclear Fuel Reprocessing Overview**

Sara Scott, program director for civilian nuclear programs at Los Alamos National Laboratory (LANL), began by giving an overview of the agenda for the presentation and introducing members of the LANL staff present at the meeting.

Dr. Rick Wallace, group leader in the Nuclear Nonproliferation Division at LANL, gave the committee an introduction to the terminology and nuclear energy principles of nuclear fuel reprocessing. Dr. Wallace discussed atoms, isotopes and the decay process. He explained that nuclear energy comes from the nucleus of an atom. Dr. Wallace stated that uranium is always composed of 92 protons and a varying number of neutrons. The most common form of uranium is U238, which has 92 protons and 146 neutrons. U235 is used to produce energy.

Dr. Wallace stated that the various forms of radioactive decay include neutron, alpha, beta and gamma decay and spontaneous fission. The most hazardous forms of external exposure are from neutrons and gammas. Alpha radiation is most hazardous when inhaled or ingested. Dr. Wallace informed the committee that very large nuclei are susceptible to being split apart through fission. The release of excess neutrons in fission makes a chain reaction possible.

Gordon Jarvinen, associate director for the Seaborg Institute at LANL, explained to the committee separations technology and reprocessing options. He noted that heat generation from high radioactivity of spent nuclear fuel requires storage under water for a period of years. The present policy in the United States calls for direct disposal of spent commercial nuclear fuel in a geological repository that can control the release of radioactive byproducts in the spent fuel for at least one million years, which is known as a "once through" or "open" cycle. Mr. Jarvinen explained that a "closed" nuclear fuel cycle refers to the processing of used nuclear fuel to recover additional energy from actinides and place residual material in a more efficient disposal form. He indicated that plutonium-uranium reduction extraction (PUREX) is a liquid-liquid extraction process developed to recover plutonium (Pu) for weapons production. This process separates Pu from uranium (U) and separates fission products from Pu and U. PUREX has been used to separate hundreds of metric tons of plutonium and tens of thousands of metric tons of uranium from spent fuel. A process known as TRUEX has also been developed to extract

americium, curium, residual plutonium and lanthanides from PUREX raffinate or acidified tank wastes.

Mr. Jarvinen then reviewed the goals of the Global Nuclear Energy Partnership (GNEP) separations technology program. These goals include: precluding or significantly delaying the need for a second geological repository in this century; reducing the volume and cost of high-level waste disposal; separating elements for fissioning in the thermal or fast neutron spectrum reactors; reducing the proliferation risk of the fuel cycle; and facilitating Generation IV nuclear energy systems. Mr. Jarvinen added that separating the elements, at least into groups, makes it more difficult to divert certain elements to weapons development.

Michael Cappiello, deputy director of the Technical Integration Office for Research and Development at LANL, presented information on fast reactors and the closed fuel cycle. He began by comparing fast reactors to light water reactors. Fast reactors use sodium as opposed to water, have a coolant pressure of 50 pounds per square inch (psi) compared to 2200 psi and have an outlet temperature of 900 degrees Fahrenheit compared to 600 degrees. Fast reactors have been used in Idaho, Michigan, Arkansas and Washington in the past, but there are currently none in the United States. Mr. Cappiello then noted that there are 104 light water reactors. He stated that there is no need for uranium enrichment in fast reactors. Mr. Cappiello said that as an integral part of the closed fuel cycle, fast reactors provide the opportunity to reduce waste and manage proliferation risks.

Finally, Ned Elkins, group leader of LANL's Carlsbad operations, discussed the impacts of repositories. He began by discussing the various entities involved in regulating repositories. He said that the repositories are highly regulated, but that transportation is an important issue that is difficult to regulate. Mr. Elkins said there are many variables involved in choosing a site as a repository. He added that a large-scale industrial facility will not be built soon and that it only makes sense to stop making light water reactors if the waste is recycled.

Questions and comments included:

- the storage length of nuclear fuel rods;
- other countries interested in nuclear power and how that affects nonproliferation;
- the need for enriched uranium in fast reactors;
- the stability of fast reactors;
- the use of uniform safety standards by different countries;
- the amount of waste that currently requires disposal;
- the percentage of waste reduced by reprocessing; and
- type of reactors planned for the GNEP in southeast New Mexico.

There being no further business, the committee adjourned at 3:30 p.m.

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## Legislative Proposals

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HOUSE JOINT MEMORIAL

**48TH LEGISLATURE - STATE OF NEW MEXICO - SECOND SESSION, 2008**

INTRODUCED BY

FOR THE RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE

A JOINT MEMORIAL

URGING THE UNITED STATES DEPARTMENT OF ENERGY AND THE UNITED STATES CONGRESS TO ALLOW FOR THE DISPOSAL OF GREATER-THAN-CLASS C LOW-LEVEL RADIOACTIVE WASTE IN THE WASTE ISOLATION PILOT PLANT.

WHEREAS, radioactive materials that qualify as greater-than-class C low-level radioactive waste have no identified path to disposal in the United States; and

WHEREAS, the nuclear regulatory commission and agreement states have generated and will continue to generate greater-than-class C low-level radioactive waste; and

WHEREAS, the federal Low-Level Radioactive Waste Policy Amendments Act of 1985 stipulates that the department of energy is responsible for ensuring the safe disposal of greater-than-class C low-level radioactive waste; and

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1           WHEREAS, greater-than-class C low-level radioactive waste  
2 is similar in form and radioactivity content to transuranic  
3 waste that the department of energy is emplacing in the waste  
4 isolation pilot plant pursuant to the Waste Isolation Pilot  
5 Plant Land Withdrawal Amendment Act; and

6           WHEREAS, federal law requires that greater-than-class C  
7 low-level radioactive waste be disposed of in a geologic  
8 repository unless other approved methods are approved by the  
9 nuclear regulatory commission; and

10          WHEREAS, the department of energy has successfully managed  
11 the geologic disposal of over fifty thousand cubic meters of  
12 transuranic waste similar to greater-than-class C low-level  
13 radioactive waste at the waste isolation pilot plant; and

14          WHEREAS, the department of energy owns or generates  
15 certain low-level waste and transuranic waste with  
16 characteristics similar to greater-than-class C low-level  
17 radioactive waste that may also not have a disposal path; and

18          WHEREAS, the department of energy has safely operated the  
19 waste isolation pilot plant for nearly nine years with an  
20 undeniable safety record; and

21          WHEREAS, the total estimated volume of greater-than-class  
22 C low-level radioactive waste is small in comparison with the  
23 required disposal capacity of the waste isolation pilot plant;  
24 and

25          WHEREAS, disposal of greater-than-class C low-level

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1 radioactive waste in an existing geologic repository such as  
2 the waste isolation pilot plant would be an ideal disposal  
3 method for the department of energy;

4 NOW, THEREFORE, BE IT RESOLVED BY THE LEGISLATURE OF THE  
5 STATE OF NEW MEXICO that the United States department of energy  
6 be urged to determine that greater-than-class C low-level  
7 radioactive waste be added to the authorized waste forms  
8 eligible for disposal in the waste isolation pilot plant; and

9 BE IT FURTHER RESOLVED that the department of energy be  
10 urged to recommend to the United States congress that the Waste  
11 Isolation Pilot Plant Land Withdrawal Amendment Act be amended  
12 to allow the disposal of greater-than-class C low-level  
13 radioactive waste in the waste isolation pilot plant; and

14 BE IT FURTHER RESOLVED that copies of this memorial be  
15 transmitted to the United States secretary of energy and the  
16 New Mexico congressional delegation.

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SENATE BILL

**48TH LEGISLATURE - STATE OF NEW MEXICO - SECOND SESSION, 2008**

INTRODUCED BY

FOR THE RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE

AN ACT

RELATING TO THE ENVIRONMENT; ENACTING THE URANIUM LEGACY  
CLEANUP ACT; PROVIDING FOR THE ADMINISTRATION OF THAT ACT AND  
CLEANUP ACTIONS TO BE TAKEN PURSUANT TO IT; CREATING REVENUE  
SOURCES TO FUND URANIUM LEGACY CLEANUP ACTIVITIES; AMENDING AND  
ENACTING CERTAIN SECTIONS OF THE NMSA 1978; MAKING  
APPROPRIATIONS.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF NEW MEXICO:

Section 1. [NEW MATERIAL] SHORT TITLE.--Sections 1  
through 7 of this act may be cited as the "Uranium Legacy  
Cleanup Act".

Section 2. [NEW MATERIAL] DEFINITIONS.--As used in the  
Uranium Legacy Cleanup Act:

- A. "board" means the uranium legacy cleanup board;
- B. "financial assistance" means providing grants or

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1 loans on terms and conditions approved by the board for  
2 qualified projects;

3 C. "fund" means the uranium legacy cleanup fund;  
4 and

5 D. "qualified project" means a project selected by  
6 the board for financial assistance.

7 Section 3. [NEW MATERIAL] URANIUM LEGACY CLEANUP BOARD  
8 CREATED.--

9 A. The "uranium legacy cleanup board" is created  
10 and is administratively attached to the energy, minerals and  
11 natural resources department. Staff for the board shall be  
12 provided by the mining and minerals division of the energy,  
13 minerals and natural resources department. It is not necessary  
14 that members be appointed to the board nor that the board be  
15 activated until such time as the fund receives money pursuant  
16 to Subsection A of Section 5 of the Uranium Legacy Cleanup Act.

17 B. The board consists of seven voting members and  
18 five nonvoting members.

19 C. The voting ex-officio members are:

20 (1) the secretary of energy, minerals and  
21 natural resources, or the secretary's designee from the energy,  
22 minerals and natural resources department, who shall be chair  
23 of the board;

24 (2) the secretary of health, or the  
25 secretary's designee from the department of health; and

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1                   (3) the secretary of environment, or the  
2 secretary's designee from the department of environment.

3                   D. The following four voting members who shall have  
4 knowledge of or experience with the extent of contamination  
5 resulting from past uranium mining and milling activities in  
6 northwest New Mexico, or with human health problems resulting  
7 from exposure to such contamination, shall be appointed by the  
8 governor:

9                   (1) one person who is a member of the Pueblo  
10 of Acoma or the Pueblo of Laguna;

11                   (2) one person who is a member of the Navajo  
12 Nation;

13                   (3) one person who is a resident of New Mexico  
14 and who has education and experience in the field of primary  
15 health care or public health; and

16                   (4) one person who is a resident of New Mexico  
17 and who has education and experience in the field of uranium  
18 mining and milling activities.

19                   E. The five nonvoting members are:

20                   (1) one representative from the federal  
21 environmental protection agency, region 6, appointed by the  
22 regional director;

23                   (2) one representative from the federal  
24 environmental protection agency, region 9, appointed by the  
25 regional director;

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1 (3) one representative from the Albuquerque  
2 area Indian health service, appointed by the area director;

3 (4) one representative from the Navajo area  
4 Indian health service, appointed by the area director; and

5 (5) one representative from the Navajo Nation  
6 environmental protection agency or division of natural  
7 resources, appointed by the president of the Navajo Nation.

8 F. The board shall meet at the call of the chair,  
9 or whenever four voting members submit a request in writing to  
10 the chair, but not less than twice each calendar year. A  
11 majority of voting members constitutes a quorum for the  
12 transaction of business. The affirmative vote of at least a  
13 majority of a quorum shall be necessary for an action to be  
14 taken by the board.

15 G. Each appointed member of the board shall serve a  
16 two-year term. Vacancies shall be filled by appointment by the  
17 original appointing authority for the remainder of the  
18 unexpired term.

19 H. Members of the board appointed by the governor  
20 may receive per diem and mileage as provided for nonsalaried  
21 public officers in the Per Diem and Mileage Act and shall  
22 receive no other compensation, perquisite or allowance.

23 Section 4. [NEW MATERIAL] URANIUM LEGACY CLEANUP  
24 BOARD--DUTIES.--The board shall:

25 A. adopt rules governing terms, conditions and

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1 priorities for providing financial assistance for the cleanup  
2 of sites contaminated by uranium mining and milling activities  
3 that occurred prior to July 1, 2008, including developing  
4 application and evaluation procedures and forms and  
5 qualifications for applicants and for projects;

6 B. provide financial assistance to applicants,  
7 including state and tribal agencies, for qualified projects on  
8 terms and conditions established by the board; and

9 C. authorize funding for qualified projects,  
10 including:

11 (1) planning, designing, constructing and  
12 operating qualified projects;

13 (2) developing engineering feasibility reports  
14 for qualified projects;

15 (3) inspecting construction and operation of  
16 qualified projects;

17 (4) providing special engineering services;

18 (5) completing environmental assessments or  
19 archaeological clearances and other surveys for qualified  
20 projects;

21 (6) acquiring land, easements or rights of  
22 way; and

23 (7) paying legal costs and fiscal agent fees  
24 associated with the implementation of qualified projects.

25 Section 5. [NEW MATERIAL] URANIUM LEGACY CLEANUP FUND--

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1       CREATED--PURPOSE--APPROPRIATIONS.--

2               A.   The "uranium legacy cleanup fund" is created as  
3       a nonreverting fund in the state treasury and shall be  
4       administered by the energy, minerals and natural resources  
5       department.  The fund shall consist of money from distributions  
6       of the uranium legacy cleanup surtax pursuant to Section  
7       7-1-6.59 NMSA 1978, money that is repaid from loans approved by  
8       the board and money that is appropriated, donated or otherwise  
9       accrues to the fund.  Money in the fund shall be invested by  
10      the state investment officer in the manner that land grant  
11      permanent funds are invested pursuant to Chapter 6, Article 8  
12      NMSA 1978.  Income from investment of the fund shall be  
13      credited to the fund.

14              B.   The energy, minerals and natural resources  
15      department shall establish procedures and adopt rules as  
16      required to administer the fund and to originate grants or  
17      loans for qualified projects approved by the board.

18              C.   Money in the fund is appropriated to the energy,  
19      minerals and natural resources department to carry out the  
20      purposes of the Uranium Legacy Cleanup Act by providing  
21      financial assistance for qualified projects.  Money shall be  
22      disbursed from the fund only on warrant of the secretary of  
23      finance and administration upon vouchers signed by the  
24      secretary of energy, minerals and natural resources or the  
25      secretary's authorized representative.  Any unexpended or

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1 unencumbered balance remaining at the end of a fiscal year  
2 shall not revert to the general fund.

3 Section 6. [NEW MATERIAL] LEGISLATIVE OVERSIGHT--RULE  
4 REVIEW--REPORT.--

5 A. Rules proposed by the board and the energy,  
6 minerals and natural resources department pursuant to the  
7 Uranium Legacy Cleanup Act shall be reviewed by the appropriate  
8 interim legislative committee prior to approval.

9 B. The appropriate interim legislative committee  
10 shall be briefed by the board on grant and loan proposals  
11 submitted to the board and shall review, monitor and provide  
12 assistance and advice concerning grants and loans proposed by  
13 the board.

14 C. The board shall report to the appropriate  
15 interim legislative committee no later than October 1 of each  
16 year regarding the total expenditures from the fund for the  
17 previous fiscal year, the purposes for which expenditures were  
18 made, an analysis of the progress of the projects funded and  
19 proposals for legislative action in the subsequent legislative  
20 session.

21 Section 7. [NEW MATERIAL] QUALIFIED PROJECTS--FINANCIAL  
22 ASSISTANCE.--

23 A. A qualified project shall have as a principal  
24 objective the elimination or reduction of actual or potential  
25 exposure of persons to contamination that may have resulted

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1 from uranium mining or milling activities that occurred prior  
2 to July 1, 2008.

3 B. Financial assistance may be provided to  
4 qualified projects in which the state of New Mexico, other  
5 state governments, the federal government, tribal governments  
6 and other public and private entities are participating.

7 Section 8. Section 7-1-6.20 NMSA 1978 (being Laws 1985,  
8 Chapter 65, Section 6, as amended) is amended to read:

9 "7-1-6.20. IDENTIFICATION OF MONEY IN EXTRACTION TAXES  
10 SUSPENSE FUND--DISTRIBUTION.--

11 A. Except as provided in Subsection B of this  
12 section, after the necessary disbursements have been made from  
13 the extraction taxes suspense fund, the money remaining in the  
14 suspense fund as of the last day of the month shall be  
15 identified by tax source and distributed or transferred in  
16 accordance with the provisions of Sections 7-1-6.21 through  
17 7-1-6.23 and 7-1-6.59 NMSA 1978. After the necessary  
18 distributions and transfers, any balance, except for  
19 remittances unidentified as to source or disposition, shall be  
20 transferred to the general fund.

21 B. Payments on assessments issued by the department  
22 pursuant to the Oil and Gas Conservation Tax Act, the Oil and  
23 Gas Emergency School Tax Act, the Oil and Gas Ad Valorem  
24 Production Tax Act and the Oil and Gas Severance Tax Act shall  
25 be held in the extraction taxes suspense fund until the

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1 secretary determines that there is no substantial risk of  
2 protest or other litigation, whereupon after the necessary  
3 disbursements have been made from the extraction taxes suspense  
4 fund, the money remaining in the suspense fund as of the last  
5 day of the month attributed to these payments shall be  
6 identified by tax source and distributed or transferred in  
7 accordance with the provisions of Sections 7-1-6.21 through  
8 7-1-6.23 NMSA 1978. After the necessary distributions and  
9 transfers, any balance, except for remittance unidentified as  
10 to source or disposition, shall be transferred to the general  
11 fund."

12 Section 9. A new section of the Tax Administration Act,  
13 Section 7-1-6.59 NMSA 1978, is enacted to read:

14 "7-1-6.59. [NEW MATERIAL] DISTRIBUTION TO URANIUM LEGACY  
15 CLEANUP FUND--URANIUM LEGACY CLEANUP SURTAX.--A distribution  
16 pursuant to Section 7-1-6.20 NMSA 1978 of the net receipts  
17 attributable to the uranium legacy cleanup surtax shall be made  
18 to the uranium legacy cleanup fund."

19 Section 10. A new section of the Resources Excise Tax Act  
20 is enacted to read:

21 "[NEW MATERIAL] RATE AND MEASURE OF SURTAX--DENOMINATION  
22 AS "URANIUM LEGACY CLEANUP SURTAX".--

23 A. For the privilege of severing or processing  
24 uranium, there is imposed a uranium legacy cleanup surtax on  
25 any severer or processor of uranium in New Mexico. The uranium

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1 legacy cleanup surtax shall be imposed at an amount equal to  
2 the greater of:

3 (1) a rate of two percent on the taxable value  
4 of uranium severed or processed; or

5 (2) one dollar (\$1.00) per pound of the  
6 content of U308 contained in the severed and saved or processed  
7 uranium, regardless of the form in which the product is  
8 actually disposed of.

9 B. For the privilege of severing or processing in  
10 New Mexico uranium that is owned by another person and not  
11 otherwise taxed by Subsection A of this section, there is  
12 imposed on the service charge of any person severing or  
13 processing uranium owned by another person a uranium legacy  
14 cleanup surtax at the same rate that would be imposed on an  
15 owner of uranium for performing the same function."

16 Section 11. SEVERABILITY.--If any part or application of  
17 the Uranium Legacy Cleanup Act is held invalid, the remainder  
18 or its application to other situations or persons shall not be  
19 affected.

20 Section 12. EFFECTIVE DATE.--The effective date of the  
21 provisions of this act is January 1, 2009.