

**MINUTES
of the
FIFTH MEETING
of the
INDIAN AFFAIRS COMMITTEE**

**October 28, 2011
State Capitol, Room 322
Santa Fe**

The fifth meeting of the Indian Affairs Committee was called to order by Representative James Roger Madalena, co-chair, on October 28, 2011 at 10:10 a.m. in Room 322 of the State Capitol in Santa Fe.

Present

Rep. James Roger Madalena, Co-Chair
Sen. Rod Adair
Rep. Ray Begaye
Rep. Sandra D. Jeff
Sen. Lynda M. Lovejoy
Rep. Patricia A. Lundstrom
Sen. Richard C. Martinez
Rep. Jane E. Powdrell-Culbert
Sen. Nancy Rodriguez
Sen. John C. Ryan
Rep. James E. Smith

Absent

Sen. John Pinto, Co-Chair
Sen. George K. Munoz

Advisory Members

Rep. Eliseo Lee Alcon
Rep. Ernest H. Chavez
Rep. Ben Lujan
Rep. Debbie A. Rodella
Rep. Nick L. Salazar

Sen. Eric G. Griego
Sen. Stuart Ingle
Sen. Timothy Z. Jennings
Rep. Antonio "Moe" Maestas
Sen. William E. Sharer

Minutes Approval

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

Staff

Damian Lara
Peter Kovnat
Cassandra Jones

Guests

The guest list is in the meeting file.

Handouts

Handouts and written testimony are in the meeting file.

Friday, October 28

Committee and staff members introduced themselves.

Permitting of In Situ Leaching (ISL) Uranium Mining

Jerry Schoeppner, acting bureau chief of the Ground Water Quality Bureau of the Department of Environment (NMED), told the committee that a company must have a radioactive materials license from the Nuclear Regulatory Commission (NRC), an aquifer exemption from the United States Environmental Protection Agency (EPA) and a groundwater discharge permit, also known as an underground injection control (UIC) permit, from the NMED in order to begin ISL mining in New Mexico. The NMED considers protection of water aquifers, aquifer restoration and financial assurance throughout the permitting process. During ISL mining of uranium, wells are set up in a way that is designed to manage the flow of groundwater to eliminate contamination of the water surrounding the ISL site. Uranium resources, Inc., (URI) was issued a radioactive materials license from the NRC and an aquifer exemption from the EPA in 1989. A UIC permit from the NMED was issued the same year. A renewal application for the 1989 permit is currently under consideration by the NMED. URI submitted a revised renewal application to the NMED in April 2011. The administrative portion of the application is complete, and the NMED is conducting a technical review. Consultations with the Navajo Nation, the Hopi tribe and the Pueblo of Acoma have been initiated or scheduled. Mr. Schoeppner presented a map to the committee that showed the site, Section 8, that is under consideration for URI's permit. Five wells in the site have been sampled, four of which had water with uranium levels higher than the drinking water standards established by the EPA.

Mr. Schoeppner told the committee that 27 ISL mines have been permitted in Texas. There have been 80 production authorization areas (PAAs), 76 that have been operated. Fifty-one of the 76 PAAs have been restored to acceptable values of contaminants and total dissolved solids (TDS). Fifty of the PAAs required an amendment to close. Amendments are issued when the maximum contaminant level (MCL) is higher than the baseline values established before mining. Mr. Schoeppner told the committee that there are limitations to the data set that determine baselines before the mining operation begins.

In response to questions from members of the committee, Mr. Schoeppner explained that water can be restored by pumping out the fluids that have been injected so that they are replaced by fresh water. The water is treated and injected back into the ground. The goal for site restoration is for the water to be at baseline values or drinking water standards set by the EPA. The NMED's permitting process involves constant communication between the department and the applicant. There is no maximum length of time for the NMED permitting process. The NMED provides oversight for the work done by the applicant, but it does not test or take independent measurements. The ore body in Section 8 is approximately 800 feet deep. When a

company installs wells, it is required to block off areas of an aquifer that mingle naturally to prevent contamination outside the ISL site. Mr. Schoepner told the committee that uranium currently sells for around \$48.00 per pound. The NMED is currently evaluating only one application for ISL mining in New Mexico.

A member of the committee asked Mr. Schoepner to identify changes in regulations that have occurred since the 1989 permit was issued. Mr. Schoepner told the committee that maximum uranium content of uranium in drinking water allowed by EPA standards has changed from five milligrams per liter to .03 milligrams per liter. Information about restoration has also increased since the initial issuance of the UIC permit to URI. In response to questions from a member of the committee, Ryan Flynn, general counsel for the NMED, clarified that in order for the EPA to issue an aquifer exemption, it must first determine that the water in the aquifer is not drinking water and is not likely to serve as a source of drinking water in the future because of the physical characteristics of the aquifer. Mr. Schoepner stated that water in New Mexico is protected by law if it contains less than 10,000 milligrams per liter of TDS. Texas and Wyoming also have ISL mining operations but do not protect water with similar levels of TDS.

Mr. Schoepner told the committee that ISL sites have data that support the belief that the water in the aquifer has elevated levels of uranium. Additional data are not collected until permits are issued. The Navajo Nation has a five-year plan to address legacy sites from conventional uranium mining. These legacy sites are separate from the ISL permitting process and have been funded by the EPA. Water that contains high levels of uranium has been linked to cancer as well as to kidney problems. EPA standards for drinking water were determined based on the conclusions of multiple toxicological studies.

In response to a question from a member of the committee, Mr. Flynn stated that the NMED's tribal liaison is Charles Lundstrom. The NMED has met with the Navajo Nation to discuss concerns regarding URI's ISL mining permit. Mr. Flynn also expressed the willingness of the NMED to consider any information that tribal entities would like to submit to the department. The NMED considers historical data as well as current data to determine the viability of a site for ISL uranium mining. After an area has been mined, the company is required to monitor the area for an additional two years to ensure that contaminant levels do not rise above restoration goals.

A member of the committee remarked that ISL mining companies would contribute to the state economy and that the mining industry should not be held to unreasonable standards. A committee member stated that the permitting process should be scientific and that if ISL mining is allowed in New Mexico, standards should be set and restoration tables should not be amended. The member also stated that restoration tables should be set at a policy level rather than at an appointed board level.

Geology of ISL Uranium Mining

Dr. Dana S. Ulmer-Scholle, associate research professor with the Department of Earth and Environmental Science at the New Mexico Institute of Mining and Technology, told the

committee that uranium is highly mobile, naturally occurring and easily oxidized. New Mexico is highly enriched in uranium that naturally occurs in rocks and soils on the surface as well as underground. Not all ore bodies can be mined with ISL technology. The environment in which an ore body exists is very complex, and research must be done to identify bodies and their relationship to one another before ISL should be considered. The United States Geological Survey (USGS) conducted some research in the 1960s and 1970s, but that information is outdated due to better equipment, models and technologies that are available today.

The ISL process involves an injector well that injects oxidizing fluid into the ground in order to dissolve an ore body. These liquids can include hydrogen peroxide, carbon dioxide or oxygen. ISL operations in the United States generally use alkaline solutions that include sodium bicarbonate-carbonate and ammonium carbonate. Recovery wells pump an amount of water out of the ground that is greater than the amount that was pumped into the ground by the injector wells. This process creates a cone of depression that minimizes the chance of off-site escape of oxidizing fluids. Monitor wells are placed outside of this area to detect any fluids that may escape the ISL site. Fluid containing dissolved uranium is then pumped out of the ground and is passed through uranium-specific ion-exchange pellets to remove the uranium from the solution. Fluid chemistries are checked, and the water is injected back into the ground. Reducing agents or other methods are used to bring ground water back to baseline conditions after ISL mining.

Dr. Ulmer-Scholle told the committee that New Mexico would benefit from more studies that concentrate on ISL mining remediation. Small-scale ISL tests would also provide useful information. Additional research could provide a means for making methods of remediation more effective and less costly. These methods could then be applied to water that is impaired from natural causes as well as those that are impaired from ISL mining. Dr. Ulmer-Scholle listed positive aspects of ISL, including minimal surface impact, short-term site usage, less expensive remediation, less radiation exposure and the employment of a small, highly trained work force. Negative aspects of ISL mining include possible local contamination of aquifers, diminished ground water quality, necessary disposal of wastewater and possible radon and radium exposure problems, as well as the difficulties of returning a site to baseline conditions. Dr. Ulmer-Scholle recommended that the state take certain precautions before allowing ISL mining, including expanded and continued research on the geology, hydrology and geochemistry in the state, more studies that concentrate on the remediation of well fields, increased monitoring terms of well fields, regulations that protect aquifers and small-scale ISL tests. Dr. J. Michael Timmons, associate director for mapping programs at the New Mexico Bureau of Geology and Mineral Resources of the New Mexico Institute of Mining and Technology, told the committee that research should specifically concentrate on the pathways between ore bodies.

A member of the committee suggested that the New Mexico Institute of Mining and Technology hold a decision-makers conference regarding uranium mining. Dr. Timmons told the committee that the program has run out of funding but would focus on uranium mining if state funding is appropriated.

In response to a question from a member of the committee, Dr. Ulmer-Scholle stated that

New Mexico conducts all of its own research regarding uranium mining. Because the states that participate in uranium mining are different geologically, a model that is appropriate for one may not be appropriate for another. Regional and site-specific studies must be done by each state.

A member of the committee asked if New Mexico is less prepared for ISL mining than other states that currently allow ISL mining. Nathan Myers, supervising hydrologist from the USGS, told the committee that studies conducted by companies prior to mining are site-specific. Because the company does not study the entire aquifer, important details may go unnoticed. Mr. Myers stated that New Mexico may need a comprehensive set of data that can provide a framework for site-specific studies.

A member of the committee asked if it was possible for water contaminated with uranium due to the injection of oxidizing agents to travel. Dr. Ulmer-Scholle stated that underground fractures can move fluids. In response to a question from the committee, Mr. Myers stated that because mines are different, each instance of mining must be treated differently. While some techniques and technologies are transferable, there must be allowances for a difference in process based on a specific mine. In response to a question from a member of the committee, Dr. Ulmer-Scholle stated that uranium naturally occurs in New Mexico and would likely reoccur after it had been mined out of a specific area.

Mr. Myers stated that while studies have been done on a site-specific scale, there is only a small amount of information about the geology of the state. In response to a question from a committee member, Dr. Ulmer-Scholle told the committee that uranium mining is more controversial in New Mexico than in other states because of New Mexico's unique history with conventional mining. ISL mining is less invasive and causes less damage to the landscape, but it is still a matter of concern for many residents of New Mexico. A member of the committee remarked that some of these fears are unfounded and that ISL mining could be as successful in New Mexico as it has been in other states. In response to a question from a committee member, Dr. Ulmer-Scholle stated that the private sector generally stops monitoring mining sites eighteen months to two years after mining stops. She suggested that long-term monitoring of these sites, by the company or an independent entity, could be beneficial.

A member of the committee stated that several incidents have occurred in other states due to ISL mining. Surface spills have occurred at three sites in Wyoming, three sites in Texas and one site in Nebraska. In response to a question from a committee member, Dr. Ulmer-Scholle stated that Texas has drilled approximately 88 wells, one of which was brought back to baseline. Eighty-seven of the wells had some value, though not necessarily uranium, that was not recovered to baseline conditions. Dr. Ulmer-Scholle also told the committee that Diné College has done a study with the Navajo Nation that addresses uranium as it relates to cancer populations and kidney disease.

Indian Affairs Department Report on Uranium Mining

Rebecca Martinez, capital outlay manager for the Indian Affairs Department (IAD), outlined the amount of money spent on the Navajo Nation for a uranium workers compensation program.

The program assists 40 chapters where miners, millers and others affected by radiation are registered. Participants in the program are offered home and nursing home visits to update claims. Six hundred fifteen thousand people have been served by the program since 2005. The program budget was cut in 2011. A member of the committee requested that the IAD provide information regarding the cost of the uranium workers compensation since 1998.

An Industry Perspective

Rich Van Horn, vice president for health, safety, environment and public affairs at URI, told the committee that URI has been in business since 1977. URI currently has three operations in the restoration phase, and it has completely restored two other operations. The Section 8 project, located near Church Rock, will employ approximately 100 people and will be the first uranium production in New Mexico in more than thirty years. The company provides high-paying and high-quality jobs. Mr. Van Horn also remarked that ISL mining does not generate legacy issues like conventional mining. URI hires a staff of geologists and engineers to investigate a site and address the concerns of community members. URI will work in a small pocket of the aquifer, which is studied in detail.

Section 8 was purchased by URI in 1986. A permit for UIC was issued by the NMED in 1989. Litigation regarding ISL mining by URI has gone on for more than 10 years since the issuance of the permit. URI has been conducting ISL mining in Texas since 1978. Wells that are drilled in order to mine a site are also used for site restoration. Contaminated water is pumped through a reverse osmosis unit during restoration and then injected back into the ground.

Dr. Daniel Erskine, principal geologist and geochemist at INTERA, Inc., told the committee that wells are installed prior to ISL mining in order to define a baseline and provide a restoration target. More wells are installed as the mining process proceeds. Because baseline values are highly variable within an ore body, an average baseline calculated from all of the wells may not give an accurate picture of the condition of the site prior to mining. In response to a question from a committee member, Mr. Van Horn told the committee that current regulations provide a framework for safe ISL mining in New Mexico. He also stated that those ISL mining operations conducted in other states have been conducted very safely. He said that New Mexico is ready to move forward with the ISL mining of Section 8.

A committee member asked the presenters why New Mexico has not had ISL mining before, even though ISL has been occurring in other states for approximately 30 years. Mr. Van Horn told the committee that when ISL was initially developed, uranium was being mined in New Mexico by conventional mining methods. An ISL test was conducted in a small portion of Section 9. ISL mining would likely have developed in New Mexico at that time if the uranium market had not suffered. Once the market recovered, URI tried to begin mining, but it has not been able to do so due to ongoing litigation. Mr. Van Horn told the committee that Texas does allow amendments to restoration tables, but only after a process that determines that the benefit of amending the restoration table outweighs the consequences. Often, the restoration table is amended to conserve water. In response to a question from a committee member, Mr. Van Horn stated that conventional mining costs at least three times more than ISL mining. Mr. Van Horn

also told the committee that URI has worked to help clean up Section 17, a historic site, even though URI has never mined in that area.

A Community Special Interest Perspective

Leona Morgan, coordinator for Eastern Navajo Diné Against Uranium Mining (ENDAUM), told the committee that ENDAUM is a nonprofit organization led by the Navajo Nation. ENDAUM works with the Multicultural Alliance for a Safe Environment (MASE) to serve a large constituency of northwestern New Mexico through advocacy for a safe environment. ENDAUM was established in 1994 as a response to URI's proposed ISL uranium mining near Crownpoint and Church Rock. Ms. Morgan said that ENDAUM is focused on protecting the water of the eastern region of the Navajo Nation from uranium mining and processing. Ms. Morgan told the committee that many community members live within two miles of the URI processing plant. The MASE is requesting that several agencies conduct comprehensive health studies before any mining occurs. The MASE also works to ensure that cultural uses of Navajo land and water are respected. Ms. Morgan told the committee that indigenous people have a culture and a way of life that focuses on living in harmony with the environment. Indigenous people in New Mexico have been left with a legacy of uranium mining and milling activities. On the Navajo Nation, there are more than 1,100 uranium sites associated with approximately 520 abandoned uranium mines. A five-year plan was developed to assess and remediate uranium contamination on the Navajo Nation. Because ENDAUM is a grassroots organization, it does not have the resources to test and monitor water quality and to do health studies. The MASE advocates for funding to do studies in the region. ENDAUM is concerned that new mining will create more contamination. Ms. Morgan requested that future committee meetings regarding uranium mining be held in the areas where mining would occur so that community members have the ability to express their concerns.

A member of the committee expressed concern that Ms. Morgan was the last presenter on the agenda. Several members of the committee echoed this sentiment. Members of the committee requested that Ms. Morgan and other representatives of the eastern region of the Navajo Nation be placed on the agenda for the sixth meeting of the IAC. Representative Madalena invited Ms. Morgan to speak to the committee at 11:00 a.m. on Wednesday, November 2, 2011. Ms. Morgan accepted the invitation.

Public Comment

Stephen B. Etsitty, executive director of the Navajo Nation Environmental Protection Agency (NNEPA), told the committee that URI believes it has acquired all licenses and permits necessary to conduct ISL mining in Section 8, though the NMED has not issued a renewal permit to URI. Section 17, which is located immediately south of Section 8, is on Navajo Nation trust land. When uranium mining is planned on private lands located near Navajo lands, it is essential that the State of New Mexico work cooperatively with the Navajo Nation to ensure that human health and shared environments are protected. While the Navajo Nation does not have direct regulatory control over the land in Section 8, it does have an interest in protecting the health and welfare of people and lands located near the proposed ISL location. Mr. Etsitty told the committee that the Navajo Nation understands the process of ISL mining and is concerned about

the potential for contamination that accompanies the process. It is critical to establish a reliable baseline measure for future comparisons of the ground water. The historic lack of solid baseline values at conventional mining sites has made it difficult for the NNEPA to dispute arbitrary cleanup standards that do not correlate with conditions prior to mining. One of the most critical parts of the ISL process is to control the movement of the chemical solutions within the aquifer. When chemical solutions escape the site, it is considered to be an excursion, which can lead to the contamination of the surrounding ground water systems. The most common causes of excursions are old exploration holes that are not plugged properly. Because Section 8 has been mined for uranium before, there are likely many old exploration holes, which could potentially compromise the ISL mining process. Mr. Etsitty requested that the committee and the legislature carefully consider ISL mining in Section 8. He suggested that URI and the NMED should reexamine the proposed mine site and the surrounding communities. The Navajo Nation has discovered radioactive waste materials on lands that URI mined in the past. The NNEPA has worked with URI to characterize these waste materials. Mr. Etsitty told the committee that the NNEPA strongly recommends that URI and the NMED fully characterize and clean up this waste before issuing a UIC permit for ISL mining in Section 8. Mr. Etsitty also requested that if ISL mining is allowed, regulations and protective controls be built into legislation to ensure that the surrounding community and environment are protected from the types of devastation that was caused by previous owners and operators of uranium mines.

Don Hyde requested that the committee amend New Mexico law to extend requirements for restoration, stabilization and independent monitoring of closed mines to a time span greater than two years. He also suggested that New Mexico law should change regulations to require companies to restore ISL mining sites to the lesser baseline value or to EPA drinking water standards. He told the committee that, as a resident of Gallup, he is very concerned about the quality of water in the area. He requested that the NMED deny the renewal UIC permit for URI.

Adjournment

There being no further business before the committee, the fifth meeting of the IAC for the 2011 interim adjourned at 6:05 p.m.