

**MINUTES  
of the  
FIFTH MEETING  
of the  
SCIENCE, TECHNOLOGY AND TELECOMMUNICATIONS COMMITTEE**

**November 8-9, 2012  
Room 307, State Capitol**

**D** The fifth meeting of the Science, Technology and Telecommunications Committee was called to order by Senator Timothy M. Keller, chair, on November 8, 2012 at 9:30 a.m. in Room 307 of the State Capitol in Santa Fe, New Mexico.

**Present**

Sen. Timothy M. Keller, Chair (11/8)  
Rep. Roberto "Bobby" J. Gonzales, Vice  
Chair  
Rep. Cathrynn N. Brown (11/9)  
Rep. Conrad D. James  
Sen. Linda M. Lopez  
Sen. Steven P. Neville  
Rep. Debbie A. Rodella  
Rep. Nick L. Salazar  
Rep. Luciano "Lucky" Varela

**Absent**

Sen. William F. Burt  
Sen. Dede Feldman  
Sen. Phil A. Griego  
Rep. Jim W. Hall  
Rep. James E. Smith

**Advisory Members**

**A**  
Rep. Ray Begaye (11/9)  
Sen. Carlos R. Cisneros  
Sen. Richard C. Martinez (11/9)  
Rep. Jane Powdrell-Culbert  
Rep. Richard D. Vigil (11/8)

Rep. Ben Lujan  
Sen. William H. Payne  
Rep. Danice Picraux  
Sen. John M. Sapien  
Rep. Don L. Tripp

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

**Staff**

**F**  
Gordon Meeks, Legislative Council Service (LCS)  
Ralph Vincent, LCS  
Elizabeth Katz, LCS

**Guests**

The guest list is in the meeting file.

**Handouts**

**T**  
Handouts and other written testimony are in the meeting file and posted on the New Mexico Legislature web site.

**Thursday, November 8**

### **Compressed Natural Gas**

Jason Sandel, executive vice president, Aztec Well family of companies, introduced himself to the committee. He provided the committee with his own personal background as well as background on Aztec Well Servicing. He gave an overview of the company's position before 2008, which included 13 drilling rigs, 33 well servicing units, 88 fluid and equipment hauling trucks, 100% utilization of the drilling rigs for 10 years, 400% company growth and 100% located in the San Juan Basin. After the 2008 economic crisis, Aztec Well Services experienced an immediate shutdown of 75% of its equipment in San Juan and 750 jobs dwindled to 225. Mr. Sandel informed the committee that the low commodity price of natural gas is causing both the community and the employees to suffer and that a New Mexico natural gas vehicle coalition has been formed to advance natural gas infrastructure and vehicle growth in New Mexico. He then spoke about the positive economic and local impact of natural gas in New Mexico.

Mr. Sandel informed the committee that the largest problem facing the natural gas industry today is a lack of demand, which has roots in many identifiable causes, including historical instability, lack of infrastructure, public fear campaigns and powerful lobbies. He stated that compressed natural gas (CNG) has become a much more viable fuel option as it consistently has the lowest retail price. He also stated that the U.S. market has responded to these lower prices with a 32% increase in CNG fueling stations since 2009 and an additional 95 stations planned. He provided the committee with a list of who is converting to natural gas in New Mexico, as well as a list of current natural gas vehicle legislation in New Mexico. He then outlined the natural gas vehicle memorandum of understanding, which is joining states together to use natural gas vehicles in state fleets, and gave the committee his own recommendations to help further the natural gas industry in New Mexico.

Questions and comments from committee members included:

- the current price per gallon of natural gas;
- the viability, demand and storage of liquified natural gas;
- possible opportunities for natural gas in the conversion of the schools' buses;
- the initial cost investment in a natural gas vehicle as compared to the long-term benefit of cheaper fuel;
- New Mexico Gas Company's inability to provide adequate pipeline pressure in the San Juan Basin; and
- whether or not the New Mexico natural gas industry would be coming forward with any specific legislation in the 2013 session.

### **Santa Fe Microgrid Systems Lab**

Randy Grissom, dean of economic and workforce development, Santa Fe Community College (SFCC), and David Brecker, president, Santa Fe Innovation Park (SFIP), addressed the committee. Mr. Brecker provided the committee with background on microgrids. He stated that microgrids are modern, small-scale versions of the centralized electricity system. They achieve specific local goals, such as reliability, carbon emission reduction, diversification of

energy sources and cost reduction. Like the bulk power grid, microgrids generate, distribute and regulate the flow of electricity to consumers, but they do so locally.

Mr. Grissom gave background on the Santa Fe Microgrid Systems Laboratory (MSL), which is a new initiative with a mission to accelerate the commercial deployment of microgrid systems worldwide. He stated that the key elements of the lab are: the Microgrid Innovation Consortium, developed and operated by the SFIP for applied research and development, cross-sector collaboration, human factors and simulation and modeling; the Global Microgrid Center, a comprehensive testing and certification facility for performance and interoperability standards at the system and subsystem module levels; and a Workforce Training and Professional Development Program, operated by SFCC to meet future human resource needs. He provided the committee with a status and funding update for the MSL. He told the committee that initial funding has come from the college and that it will need help from the state in the second round of funding. He then directed the committee's attention to a proposed piece of legislation, asking for a \$1 million appropriation to SFCC to aid in the development of the laboratory.

Questions and comments from committee members included:

- whether or not energy storage will be a component of the microgrid;
- what other states are doing with respect to microgrids; and
- how the Mesa del Sol project compares with the proposed MSL.

### **Public Regulation Commission Action on Telecommunications**

Patrick Lyons, chair, Public Regulation Commission (PRC), and Theresa Becenti-Aguilar, vice chair, PRC, introduced themselves to the committee. They discussed some of the issues with Sacred Wind Communications and addressed a couple of the committee's concerns regarding proposed changes to the Rural Telecommunications Act of New Mexico. Mr. Lyons stated that the PRC's goal is to maintain balance to ensure that public interest is protected. He also addressed the utility and carrier inspection fee, which, he stated, would make the fee applicable to all telecommunications carriers, effectively leveling the playing field.

Jason Marks, commissioner, PRC, and Douglas Howe, commissioner, PRC, informed the committee that they are available to answer any questions regarding their report on House Memorial 63. Mr. Marks agreed that rural New Mexico is in need of further telecommunications development, but he pointed out that the Rio Grande corridor is also a hot spot for telecommunications development. He also discussed the growing competition between cellular phones and landlines in the residential market but stated that as of yet there is no competition between the two where businesses are concerned. He expressed the need to look at what is currently in place and regulate or deregulate, as necessary, while still protecting the users.

A motion was made and seconded to endorse the proposed legislation, titled "Telecommunications; Incumbent Carriers". The committee then discussed the next proposed piece of legislation, titled "Telecommunications; Utility Carrier Inspection Fee". A motion was made and seconded to endorse that proposed piece of legislation.

Questions and comments from committee members included the PRC's perspective on the passing of constitutional amendments.

### **State Investment in Economic Development**

Vince Smith, deputy state investment officer, State Investment Council (SIC), made a presentation to the committee. He directed committee members' attention to a handout that detailed third-quarter results for SIC funds. He then informed the committee that he would be speaking about the New Mexico Private Equity Investment Program (NMPEIP). He gave the committee background on the NMPEIP and made a comparison between the early investment approach and the current approach. In the early years, NMPEIP was seen as a catalyst to help build a venture community in New Mexico. The focus was not on returns but on stimulating the New Mexico economy, and the returns prior to 2004 were poor. Currently, the program is being operated under the Uniform Prudent Investor Act, and investment returns have improved significantly. He stated that the SIC is now looking at how to handle the program in the future. The council has advised Sun Mountain Capital to bring new fund investments for consideration. He also stated that the NMPEIP is still deploying funds to New Mexico companies primarily through the New Mexico Co-Investment Fund. This fund has been operated by Sun Mountain Capital since 2006 and has had slightly positive returns since 2006, with -3% returns overall.

Brian Birk, managing partner, Sun Mountain Capital, addressed the committee and provided an update on the NMPEIP. He informed the committee that over \$350 million has been committed to 28 different venture capital funds that support New Mexico-based companies and that, since inception, these funds have been directly or indirectly invested in 62 different companies based in New Mexico. He stated that the NMPEIP is widely regarded as one of the top programs in the country and a leader in introducing best practices that are now used across the industry. He then discussed the reasons the program has made no new investments since 2008. He stated that the lack of new investments can be primarily attributed to the 2008 market crash but that improving financial performance and strong distributions have replenished the NMPEIP so that it is now in a position to make new commitments. Mr. Birk stated that the SIC has directed Sun Mountain Capital to begin reviewing funds for possible investment and that it is actively looking for good investments for the program. He then outlined the investments made in New Mexico companies from the NMPEIP from 2009 to 2012 and laid out investment amounts by sector. He highlighted the fact that the majority of investment funds go to technology-related companies. Finally, he summarized future steps for the NMPEIP.

Questions and comments from committee members included:

- job creation over time with small startups;
- intellectual property generation by companies that have received investments;
- the consolidation of small startups with larger companies;
- the intent of venture capital to focus on technology enterprises;
- expectation of returns on investments;
- how to balance the prudent investment mandate with the purpose to further economic development; and
- whether any legislative action is being requested.

## **Approval of Minutes**

Upon a motion made and seconded, the minutes of the October meeting were approved.

## **Legislative Proposals**

After some discussion, the committee endorsed the following proposed legislation:

- right of first refusal for transmission lines;
- student brain drain;
- tenure for commercialization and community service;
- gross receipts deductions for technology transfer;
- gross receipts tax credit for donations to endowment funds;
- endowment investments for technology transfer;
- State Land Office royalties;
- hydrogen tax incentives;
- solar tax credits for less than one megawatt; and
- appropriation for microgrid work force training.

The meeting recessed at 4:00 p.m.

## **Friday, November 9**

### **Electricity Transmission Capacity**

Former Governor Toney Anaya addressed the committee on a topic that, he stated, is very important for New Mexico in terms of economic development and further development of renewable energy sources. The Tres Amigas project, he informed the committee, is a \$1.5 billion project in Clovis that is looking to set up headquarters in Albuquerque. The purpose of the Tres Amigas project is to link together the three electric grids in the U.S. Currently, New Mexico is only capable of selling electricity to the western U.S.; the Tres Amigas project would enable New Mexico to sell energy throughout the U.S. and into Canada. Governor Anaya stated that a lack of available transmission lines is a major problem in New Mexico and has caused many wind and solar developments to be put on hold. He highlighted some of the issues with interstate transmission and made some suggestions on how to improve transmission in New Mexico. He then recommended that a memorial be generated to direct the New Mexico Legislative Council to form an interim committee or subcommittee to deal with this issue in the 2014 session.

Questions and comments from committee members included:

- New Mexico's potential for exporting power out of state;
- the role of the New Mexico Renewable Energy Transmission Authority in the transmission issue;
- a balanced energy market;
- the difficulties associated with building transmission lines; and
- potential electricity sales to Mexico.

## **Information Technology Commission and Project Certification Process Status**

Darryl Ackley, secretary, Department of Information Technology (DoIT), provided the committee with an overview of the information technology life cycle and the project oversight process. He then directed the committee's attention to the quarterly report and FY14 requests, which were provided as handouts. He discussed the Enterprise Project Portfolio and the functions that it performs and gave a detailed overview of the project certification process and how it works. He then provided the committee with an operations update in which he discussed the need for mainframe stabilization and the replacement of the z9 mainframe with a z114 mainframe, disaster recovery, public safety radio communications, core phone servicing upgrades, the Tivoli Usage Account Manager billing system and service development and gave a supercomputer update. For the SHARE update portion of the presentation, Mr. Ackley introduced David Holmes, SHARE systems manager.

Mr. Holmes informed the committee that SHARE is the organization that delivers a core set of centralized enterprise business capabilities to the state, its agencies and other customers. He stated that SHARE has not yet reached its full potential to deliver valuable capabilities that agencies want and need and that SHARE should improve and extend its capabilities to better serve agencies. He gave an overview of current SHARE projects and special projects. He then discussed SHARE staffing levels and stated that turnover and new positions have resulted in seven positions, to be filled immediately. He compared SHARE with similar programs in seven other states, pointing out the discrepancy between the number of citizens supported by SHARE in New Mexico and SHARE's staff size as compared with other similarly sized organizations. He stated that while SHARE does have technical and infrastructure support, it is in need of functional support that would provide business process support, application configuration and troubleshooting and a design for new functionality that would test new system features and functions and that would train users.

Questions and comments from committee members included:

- the makeup of the Information Technology Commission and the status of appointments;
- the need for an external review of the SHARE system;
- how to disseminate information to rural communities and the need for training;
- a discussion of E911 centers;
- identified dead zones for communication; and
- the Native American community's emergency preparedness.

## **Smart Grid Research**

Dennis Morrison, Ph.D., New Mexico Institute of Mining and Technology (NMIMT), introduced himself to the committee and stated that he would be making a presentation on grid reliability and renewable energy. Research on these two topics was primarily funded by the U.S. Department of Energy with some funds coming from the New Mexico Hydrogen Initiative, internal NMIMT funds and private sector participation. He outlined the areas of interest in the research being done and informed the committee that he would focus on microgrid reliability, instrumentation and testing during the presentation. He discussed the energy research at Playas,

New Mexico, and outlined the project goals. The Playas Training and Research Center is a 640-acre town site that is owned by NMIMT. In this town site, there are 259 single-family homes, 25 apartment units, a community center, a daycare center, an RV park, a fire station, a fully equipped medical clinic, an airstrip, wide streets and street lights, three water wells, a wastewater treatment plant and a gigabit fiber optic network installed at every building. He provided the committee with specifics regarding grid connection and the types of renewable energy generated and used at the Playas site. Finally, he addressed the conclusions generated from the research performed at Playas.

### **National Laboratories Staffing Demographics and Budget Status**

Bonnie Apodaca, vice president of business operations and chief financial officer, Sandia National Laboratories, began her presentation with a brief history of the lab and stated that Sandia's primary mission areas are nuclear weapons, nonproliferation and international security, pathfinding research for broader national security and energy research. She presented the committee with a breakdown of the operational funding for the lab and the FY13 budget. Ms. Apodaca reviewed Sandia's work force, stating that the lab has 9,238 regular employees and a gross payroll of \$981 million. She also discussed Sandia's diversity strategy in staffing and its community outreach. She gave an overview of the lab's scholarship and tuition assistance programs and stated that the Masters Fellowship Program is specifically designed for minority participation and advancement. She also informed the committee that Sandia had a substantial economic impact on New Mexico in FY 2012, with a total of \$400 million in contract-related payments, \$250 million in small business payments, \$146 million in payments outside of small businesses and \$11 million in procurement card purchases.

Rich Martinez, executive director, Los Alamos National Laboratory (LANL), introduced himself to the committee. He addressed the difficult fiscal year and the impact that it has had on the lab. He stated that LANL finished 2012 with \$383 million less funding than in 2011, and with 1,295 fewer employees. He informed the committee that attrition was spread across the lab, with 557 leaving in the Voluntary Separation Program, and he attributed the remaining job loss to contractor cuts, normal attrition and slightly fewer students. He also informed the committee that vendor contracts are down \$200 million from FY11. He reviewed the FY13 estimated budget and stated that efforts to control costs have been successful. He then provided the committee with LANL's work force statistics regarding ethnicity and gender and stated that the work force at LANL is significantly populated by New Mexico-educated graduates and native New Mexicans. Of the 6,507 employees with degrees at the lab, 2,907 received at least one of their degrees from a New Mexico college or university. He gave an overview of LANL's student and post-doc pipeline and demographics and concluded his presentation by stating that the Los Alamos National Security Board has approved Community Commitment Plan 2.0, which includes more than \$3 million per year in spending for education, economic development and charitable giving.

Questions and comments from committee members included:

- efforts that have been made in technology transfer;

- the percentage of Hispanic individuals in professional positions at the labs and efforts being made by the labs to get minorities into the science and engineering fields;
- limited-term positions at LANL;
- the lack of promotion from within LANL;
- security issues;
- whether there is any specific job category at LANL that was significantly affected by the Voluntary Separation Program; and
- the labs' recruitment methods.

### **Eldorado Biofuels**

Paul Laur, chief executive officer (CEO), Eldorado Biofuels, made a presentation to the committee on growing algae in treated produced water. He stated that Eldorado Biofuels is an algae production company, located in Santa Fe, that produces algae biomass, feedstock oil (lipids) for processing into biofuel, lipid extracted algae and biogas. He reviewed the products that can be generated from algae and from Eldorado Biofuel's current products. He then provided the committee with a list of the company's strategic partners within the National Alliance for Advanced Biofuels and Bioproducts. He stated that Eldorado's unique niche is in using produced water to cultivate algae, or Jalgae, as he referred to it, that can be sold for biofuels. He then outlined the current method for disposal of produced water and how Jalgae will offer petroleum companies a new, inexpensive way to dispose of it. He informed the committee that infrastructure costs for algae cultivation are significant and that these costs, coupled with low-cost fossil fuel alternatives, are a major barrier to commercialization. He then made a few recommendations to the committee on what will be required of the legislature in order to expand the presence of biofuel companies in New Mexico.

### **New Mexico Business Incubator Group**

Marie Longserre, president and CEO, New Mexico Business Incubator, addressed the committee and introduced Tim Nisly, operations manager from the South Valley Economic Development Center. She gave the committee background on the incubator program and talked about the number of companies founded and jobs created through the program. She reviewed the funding that has been received, to date, and the economic impact that the program has had on New Mexico. She then presented the committee with proposed legislation for a \$200,000 appropriation to the Economic Development Department for certified business incubators statewide. The committee endorsed the legislation.

### **Adjournment**

There being no further business before the committee, the fifth meeting of the Science, Technology and Telecommunications Committee for the 2012 interim adjourned at 4:30 p.m.