

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

**October 27, 2010**  
**Room 322, State Capitol**

The fifth meeting of the Science, Technology and Telecommunications Committee was called to order by Senator Stephen H. Fischmann, chair, on Wednesday, October 27, 2010 at 9:05 a.m. in Room 322 of the State Capitol.

**Present**

Sen. Stephen H. Fischmann, Chair  
Rep. Roberto "Bobby" J. Gonzales, Vice Chair  
Rep. Janice E. Arnold-Jones  
Sen. Vernon D. Asbill  
Sen. Dede Feldman  
Rep. Jane E. Powdrell-Culbert  
Rep. Debbie A. Rodella  
Rep. Nick L. Salazar  
Rep. Luciano "Lucky" Varela

**Advisory Members**

Sen. Carlos R. Cisneros  
Rep. Ben Lujan  
Rep. Kathy A. McCoy  
Rep. Jeannette O. Wallace

**Absent**

Sen. Kent L. Cravens  
Sen. Phil A. Griego  
Sen. Linda M. Lopez  
Rep. Richard D. Vigil

Sen. Mark Boitano  
Rep. Karen E. Giannini  
Sen. Richard C. Martinez  
Sen. William H. Payne  
Rep. Danice Picraux  
Sen. John M. Sapien  
Rep. Don L. Tripp

**Guest Legislator**

Sen. Nancy Rodriguez

**Staff**

Gordon Meeks, Drafter, Legislative Council Service (LCS)  
Ralph Vincent, LCS  
Jeret Fleetwood, LCS

**Guests**

The guest list is in the original meeting file.

## Wednesday, October 27

Senator Fischmann began by having members of the committee introduce themselves.

### **Broadening E-911 Surcharge**

Shirley Whatley-Valdez, chair, E-911 Directors Affiliate, New Mexico Association of Counties (NMAC), and Ken Martinez, vice chair, E-911 Directors Affiliate, NMAC, provided the committee with an update regarding funding for the E-911 system. They began by introducing E-911 directors from several New Mexico counties and providing the committee with a proposed bill. Ms. Whatley-Valdez and Mr. Martinez explained that their proposal would add the E-911 surcharge already collected on most phone bills to some of the new technologies used in place of land-line phones. They noted that the number and use of land lines have been steadily decreasing for a few years, which has resulted in declining revenue collected from the E-911 surcharge. Ms. Whatley-Valdez and Mr. Martinez indicated that the proposed legislation focuses mainly on voice over internet protocol (VOIP) phone use and prepaid wireless phones, the use of which appears to be steadily increasing. They noted that adding the E-911 surcharge to those technologies would likely help make up for some of the revenue the Enhanced 911 Fund has lost due to declining land line use.

Questions and comments included the following:

- While the surcharge will not be increased, the proposed legislation would levy the charge on some phone users who do not currently pay it.
- The surcharge added to VOIP and prepaid wireless users would be paid at the time of purchase.
- Wireless phone users already have the surcharge added to their monthly contracts.
- Some monthly VOIP subscribers would see the surcharge added to their monthly bills.
- The Department of Finance and Administration currently administers the Enhanced 911 Fund.
- Because the Public Regulation Commission (PRC) does not have oversight over VOIP, and the proposed legislation would not affect phone rates, no PRC approval would be needed in addition to passage of the legislation.
- Prepaid phone cards may not be affected by the proposed legislation.
- Some phone users who employ land lines, wireless phones and VOIP may have to pay the E-911 surcharge three times under the proposed legislation.

- The proposed legislation follows model legislation under consideration in other states.
- Problems exist with the model legislation, such as the authorization in it to pursue legal action in the collection of fees.
- Retailers who carry prepaid wireless and VOIP software have not yet been consulted on the proposed legislation.
- The surcharge on prepaid items would be a predetermined percentage of the overall purchase.
- Some low-income customers would be exempt from the surcharge once they provide the proper paperwork.
- The surcharge would go to the Enhanced 911 Fund to be used for equipment and training of E-911 operators.
- The Enhanced 911 Fund pays for 911 calls, radios, dispatchers and centers, all of which cost much more than what is available from the fund.
- Issues exist regarding the effective date contained in the proposed legislation.
- There are E-911 issues unique to Espanola and Rio Arriba County.

### **Right-of-Way Fees**

Tito Chavez, NMAC lobbyist, provided the committee with an update regarding an attempt made during the last legislative session to address the issue of right-of-way fees.

Questions and comments included the following topics:

- use of right-of-way easements versus eminent domain condemnations;
- relocation fees may be added to customer bills throughout a utility's service area to finance a project that may only benefit some of those customers;
- fees are ultimately imposed upon consumers because other entities pass them on;
- utilities cannot condemn public property; instead, they rent it;
- counties are unable to collect fees in the same manner as cities do, although counties would prefer to be able to collect them the same way;
- fees are ultimately a tax on consumers and may merit a discussion on capping them;

- while a positive referendum is required in order to exceed four percent franchise fees, those fees still tend to hit low-income customers the hardest;
- many local governments do not negotiate fee agreements that are beneficial to them;
- fees appear as a separate line item on a customer's bill; and
- no objections to the concept were noted by the committee.

### **University of New Mexico (UNM) Research, Research Centers and Renewable Energy**

Dr. Julia E. Fulghum, vice president for research and economic development, UNM, provided the committee with an overview of UNM's academic standards and research program opportunities. She explained that the school has about \$396 million in research awards under its management, and it has enjoyed significant success from the federal American Recovery and Reinvestment Act of 2009. Dr. Fulghum discussed the university's involvement in start-up companies, highlighting the economic impact of such companies through investment, sales and jobs. She also provided the committee with an overview of some of the major research areas at UNM, including materials science, emerging and sustainable energy and computation and visualization. Dr. Fulghum then discussed some of the work performed by UNM in addressing the oil spill in the Gulf of Mexico.

Arup K. Maji, interim dean, UNM School of Engineering, provided the committee with an overview of the makeup, and work performed on behalf, of the UNM School of Engineering, pointing out that the \$31 million in faculty research funding awarded to the school counts as income for the state's economy. He also explained that much of the funding awarded to various UNM research projects was leveraged into significantly more money in grants and other revenue sources that went on to fund numerous other positions. For example, Professor Maji said, the \$200,000 awarded to the biomedical research program helped generate \$2 million in additional research funds.

Professor Maji discussed the engineering school's involvement in emerging and sustainable energy research, explaining that current energy research is focused on UNM's Center for Emerging Energy Technologies (CEET) and its Center for Micro-Engineered Materials (CMEM). He pointed out that about \$9.8 million in energy-related funding had been appropriated to CEET, while another \$4 million was dedicated to CMEM. Also, Professor Maji noted that collaborative activities are under way with 23 private companies, six national laboratories, 23 national universities and four international universities.

Plamen Atanassov, director, CEET, provided the committee with an overview of the center's mission, programs and partnerships. He began by pointing out that New Mexico enjoys one of the most diverse renewable energy landscapes in the country. He detailed the various subdisciplines associated with renewable energy technology, such as materials devices, systems and networks, fuels and energy carriers and storage devices. Professor Atanassov explained how

many of the various UNM research programs were involved with each of those disciplines and the work conducted to this point in each of them. He noted the funding possibilities of continued research in those disciplines, pointing out the steadily increasing amounts already appropriated. Finally, Professor Atanassov discussed the individual programs of study available at UNM that are associated with emerging and renewable energy technologies.

Questions and comments included the following:

- some, but not enough, UNM research funding finds its way to New Mexico high schools to encourage and recruit in-state students to UNM's research programs;
- the process for, and number of patents sought by, UNM's research programs;
- the preponderance of issues raised at the recent Council of State Governments-West were associated with renewable energy technology;
- UNM research on geothermal energy sources and the potential for transfer of those technologies to start-up companies;
- the patent process involves a potential backlog of several years in the national patent office, even after the recent streamlining of the process;
- the difference between investments in start-up companies' licensing of technologies by the university;
- the value of royalties paid to the university for technology licenses varies dramatically;
- the difficulty of predicting which technology licenses will eventually pay off and which will not;
- investment in nuclear technology research exists, but it is relatively small because the U.S. Department of Energy is the sole source of funding for such research, and year-to-year funding levels are somewhat unpredictable;
- the potential for duplication of effort within, and consolidation of various renewable energy programs at, the university;
- the overall effect of UNM's reduction of graduate assistant positions on research programs;
- decisions regarding the final number of graduate assistant positions available through the university are still pending;

- issues regarding potential difficulties in engineering degree matriculation;
- significance of selection of UNM as one of the top-10 Hispanic-serving institutions in the nation;
- the increase in the number of Hispanic students enrolling in UNM's engineering program;
- efforts to bring high-technology jobs to New Mexico are supported by in-state development of a well-educated work force;
- the significance of the angel investment tax credit in encouraging start-up companies associated with the university;
- the gap between technology development and product marketing has repeatedly been identified as the biggest obstacle to economic development originating from in-state academic research; and
- the exportation of energy and associated intellectual capital can be helped along through the construction of energy transmission lines, but it also involves continual retention of the state's best minds, as opposed to allowing promising young people to seek work outside of the state.

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

### **Renewable Energy, Efficiency and Ratemaking: What Is Working**

Ken Costello of the National Regulatory Research Institute provided the committee with an overview of the utility ratemaking process as it relates to the challenges presented by renewable energy. He began by explaining that energy efficiency initiatives involve the complex relationship among consumer behavior, utility financing and regulatory oversight. He noted, for example, that use of the existing rate construction model discourages utilities from embracing most energy efficiency measures because they are likely to limit the profit that utility companies would otherwise enjoy.

Mr. Costello stated that aligning a utility's financial interests with energy efficiency is one of the keys to true energy efficiency. However, he outlined the basic problems with such an arrangement, particularly those facing utilities and regulators. Mr. Costello discussed some of the different ratemaking mechanisms that might help encourage such a climate. He also discussed the basic elements of good ratemaking, such as consideration of all the interests involved and tradeoffs that each stakeholder may have to make in order to reach a suitable balance between the interests of both the consumer and the utility.

Mr. Costello discussed some of the mechanisms state policymakers might use to promote

renewable energy. For example, he noted that several states, including New Mexico, have implemented renewable portfolio standards, mandating increased investment in renewable energy sources. Mr. Costello did point out, though, that much of the cost associated with the increased investment in renewable energy is eventually passed on to consumers.

Mr. Costello discussed other methods that states might employ to encourage use of renewable energy, including renewable energy certificates and net metering programs. He explained that net metering programs encourage investment in renewable technology by consumers, particularly by enabling them to offset their own consumption by allowing their meters to run backwards when they generate electricity in excess of their demand. However, Mr. Costello acknowledged that the initial investment required to install renewable energy generation equipment, mostly photovoltaic solar panels, is significant and presents an obstacle to net metering systems.

Questions and comments included the following:

- the effect on the overall ratemaking process of the increasing number of households that move to self-sufficient energy models;
- the main alternative to energy efficiency is increasing the capacity of utilities, which tends to be much more expensive for customers; and
- ratemakers tend not to treat efficiency very seriously for now, but unexpected innovations could have a dramatic effect on the ratemaking process.

### **Clean Technology Commercialization**

Brendan Miller of the Economic Development Department (EDD) began by providing the committee with answers to a number of questions raised during the last meeting, mostly regarding the angel investment tax credit. Mr. Miller and Ellen Verseth, also of the EDD, emphasized that the tax credit helps to create and attract new high-wage jobs in New Mexico.

Mr. Miller provided the committee with testimony regarding the commercialization of clean energy technology. He explained that New Mexico enjoys a number of assets that help provide an advantage in both clean energy production and potential investment opportunities. However, Mr. Miller also pointed out that while New Mexico ranks particularly high both in the nation and among neighboring states in federal research and development funding, it ranks extremely low in terms of state funding for the same purpose, placing it at a distinct advantage among the neighboring states. He also highlighted the significant gap between research funding and product development and marketing.

Mr. Miller provided the committee with a number of recommendations, including:

- improving statewide coordination, promotion, evaluation and monitoring of research efforts;

- expanding on incentives that stimulate technology commercialization;
- strengthening incentives that help attract angel, venture capital and business research and development investments; and
- cultivating the market for targeted technology products in New Mexico.

Questions and comments included the following topics:

- investments in the New Mexico Institute of Mining and Technology's high-energy materials research laboratory;
- investing in development clusters, rather than individual projects, makes it difficult to encourage investment in those programs that show promise;
- local machine shops may not qualify for investment using established criteria, but they serve as a fundamental component of project development and commercialization that should not be ignored; and
- no project originating in New Mexico has successfully made the transition from research project to start-up company to profitable company yet.

### **Los Alamos National Laboratory (LANL) Energy Transmission Study Report**

Jeremy Turner, director, New Mexico Renewable Energy Transmission Authority, and Loren Toole of LANL provided the committee with a report regarding a LANL study on renewable energy development. They explained that the project involved three phases: (1) screening of transmission alternatives; (2) grid analysis and collaboration with New Mexico's transmission providers; and (3) final evaluation of grid operational issues prior to actual construction.

Mr. Turner and Mr. Toole explained that only phase one of the project had been completed, and they provided the committee with an update on the project. They explained that the study was based on the following assumptions:

- New Mexico's transmission grid must be expanded to meet projected load growth, to increase use of renewable resources and to maintain reliable delivery of power;
- that projections show steady growth in electricity demands of western U.S. consumers over the next 20 years; and
- a reliance upon the Four Corners transmission hub to serve as New Mexico's primary means of exporting power.

Mr. Turner and Mr. Toole discussed the key findings of the study, explaining that New Mexico enjoys significant capacity for renewable energy production and exportation and can realize tax income from those power exports. They provided the committee with maps detailing various transmission line locations. Mr. Turner and Mr. Toole also discussed the potential economic impacts of the various transmission line locations and detailed the potential next steps suggested by the LANL study, particularly concerning collector cost recovery and evaluation (including stakeholder meetings) of both collector plans explored by the study.

Questions and comments included the following topics:

- the number of jobs created by increasing New Mexico's power transmission capabilities tends to increase as the projects move forward;
- many of the jobs created by a transmission construction project involve relatively temporary construction jobs;
- the results of the LANL study do not point toward one plan or another; rather, they illustrate the complexity associated with expanding New Mexico's renewable energy transmission capacity and some of the decisions facing lawmakers as things move forward;
- most transmission line developers and investors assume a relatively high rate of return on transmission projects, based upon projected electricity costs over the next 20 years;
- the potential rate of return from construction and operation of renewable energy transmission lines versus that realized by New Mexico's investment in its permanent funds;
- similar transmission projects are being discussed in a number of western states, but none of them is currently under construction;
- much of New Mexico's renewable energy originates in eastern New Mexico and requires additional transmission line hookup and capacity in order to be exportable to other markets;
- phase one of the project is a finished document, but it is still only one step in an overall process;
- the numbers suggested by the project are always subject to change, but they do suggest that exportation of renewable energy is a viable investment; and
- some reasonable fluctuation in the numbers is expected, but the intent is for the project to move forward and maintain transparency.

Senator Fischmann reminded committee members that the next meeting is scheduled for November 29-30.

The committee adjourned at 4:20 p.m.