

NORTH DAKOTA LEGISLATIVE MANAGEMENT

Minutes of the

ENERGY DEVELOPMENT AND TRANSMISSION COMMITTEE

Monday, October 9, 2017

Brynhild Haugland Room, State Capitol, Bismarck, North Dakota

Tuesday, October 10, 2017

Room 335, National Energy Center of Excellence, Bismarck State College, Bismarck, North Dakota

Senator Rich Wardner, Chairman, called the meeting to order at 9:30 a.m.

Members present: Senators Rich Wardner, Brad Bekkedahl, Merrill Piepkorn, David S. Rust, Jessica Unruh; Representatives Mike Brandenburg, Ben Koppelman, Corey Mock, Todd Porter, Gary R. Sukut

Members absent: Senator Jim Dotzenrod; Representative Tracy Boe

Others present: Senator Joan Heckaman, New Rockford, member of the Legislative Management
See [Appendix A](#) for additional persons present.

It was moved by Senator Rust, seconded by Senator Bekkedahl, and carried on a voice vote that the minutes of the September 6-7, 2017, meeting be approved as distributed.

Chairman Wardner said Section 34 of 2017 House Bill No. 1015 provides for a study of wind energy taxation, which was assigned to the committee. He said the study must include consideration of the various methods of taxing wind energy and the parity of wind energy taxation in comparison to the taxation of other energy sources. He said the committee is in the process of receiving information on electrical markets and electrical utility operations as part of the committee's study of wind energy taxation.

NORTH DAKOTA TRANSMISSION AUTHORITY

Mr. Tyler Hamman, Director, North Dakota Transmission Authority, presented information ([Appendix B](#)) regarding the authority's activities during the 2015-17 biennium and distributed copies of the authority's 2016 and 2017 annual reports ([Appendix C](#)) pursuant to North Dakota Century Code Section 17-05-13. He said the CapX 2020 transmission line project, which includes 800 miles of lines, was completed in August 2017 and will increase electrical reliability and access to renewable energy across the Midwest. He said the federal Environmental Protection Agency is reviewing the Clean Power Plan and may release a replacement plan in the near future. He said the utility industry may still be required to reduce carbon dioxide emissions because of regulations by other states. He said the United States Department of Energy conducted an electrical grid reliability study and recommended continued support for research and development for technology to increase reliability and resiliency in the electrical grid. He said the utility industry and the federal government are working on measures to increase cybersecurity protection for the electrical grid.

ELECTRICAL UTILITY OPERATIONS
Energy-Related Tax Incentives

Senator Unruh distributed information ([Appendix D](#)) regarding a summary of state efforts to preserve baseload electrical generation facilities and a section from the United States Department of Energy's grid reliability study, which identifies federal tax incentives for each energy source. She said the information may help the committee evaluate energy policies by energy source and compare the policies in North Dakota to the policies in other states.

Representative Brandenburg distributed information ([Appendix E](#)) regarding state and federal tax incentives related to coal and oil. He said there are 20 tax incentives related to coal and 38 tax incentives related to oil. He said fewer tax incentives are available for wind power. He also distributed information ([Appendix F](#)) regarding the estimated economic impact of the wind energy industry in North Dakota. He said in 2016, the wind energy industry contributed \$170 million to North Dakota's economy and provided \$7.7 million of property tax revenue to local governments.

Overview of Electricity Distribution and Pricing

Mr. Jay Skabo, Vice President of Electric Supply, Montana-Dakota Utilities; and Mr. Dale Niezwaag, Vice President of Government Relations, Basin Electric Power Cooperative, presented information ([Appendix G](#)) regarding an overview of electricity distribution and pricing.

Mr. Skabo said the population in the United States increased by 41 percent from 1980 to 2014, while energy consumption increased by 25 percent, and emissions from the six most common pollutants decreased by 63 percent. He said energy efficiency efforts contributed to the slower growth of energy consumption and pollution control technology allowed emissions to decrease.

Mr. Niezwaag said electricity is generated at power production facilities and distributed to end users by transmission lines. He said electricity is generated and distributed within power pools. He said wholesale electrical markets relate to the power production facilities and high-voltage transmission lines, while retail markets and pricing relate to the final distribution to end users. He said baseload power, which provides a steady supply of electricity, is the most common source of electricity production with intermediate and peaking facilities providing the remaining supply.

Power Pools

Mr. Niezwaag said electricity was initially generated and distributed within local, isolated markets. He said markets expanded to gain efficiencies and became interconnected to enhance reliability. He said some markets in the United States organized into power pools, which are operated by regional transmission organizations. He said the two regional transmission organizations operating in North Dakota are Midcontinent Independent System Operator (MISO) and Southwest Power Pool. He said the benefits of power pools include power supply balancing and reliability as well as efficient operations that save customers money.

In response to a question from Representative Porter, Mr. Niezwaag said utilities voluntarily join power pools, but membership in the pool must be approved by the regional transmission organization that operates the pool before the utility is allowed to join.

In response to a question from Representative Mock, Mr. Niezwaag said utilities are required to have enough electricity production capacity for their own service areas prior to joining the power pool so the power pool has sufficient capacity to serve all of the customers.

Wholesale Electricity Pricing

Mr. Skabo said utilities submit an offer price for each generation unit to sell power into the power pool as a part of the wholesale electrical market. He said the regional transmission organizations sort the offers from the lowest price to the highest price and determine how much electricity needs to be purchased to supply the customers in the power pool. He said the regional transmission organization dispatches electricity throughout the power pool starting with the units that have the lowest offering prices and continuing to dispatch power from successively more expensive units until enough electricity is supplied to the power pool. He said the regional transmission organization purchases the power from the utilities based on the clearing price, which is the offer price from the last generation unit that had power dispatched into the power pool. He said if the last unit dispatched had an offer price of \$10 per megawatt, then all of the utilities that had units with power dispatched into the power pool would receive \$10 per megawatt for their production even if the offer price from their units was less than \$10 per megawatt.

Mr. Skabo said the offer price for each unit is based on the variable cost to operate the unit, which is primarily the cost of fuel. He said wind-powered generation units are usually offered at \$0 because the fuel (wind) has no cost. He said some wind-powered generation units may be offered at negative prices in certain circumstances because operators still have revenue from the federal production tax credits for wind.

Mr. Niezwaag said utilities sell power into the power pool and they also purchase power from the pool to provide electricity to their service area. He said utilities purchase power from the power pool based on the clearing price in the wholesale electrical market. He said end users benefit in the long-term from the wholesale market pricing structure, because the clearing prices provide the lowest wholesale prices in the power pool. He said utilities then sell power to end users at retail prices, which are higher than wholesale prices, allowing utilities to recover fixed and administrative costs.

Challenges in Electrical Markets

Mr. Niezwaag said concerns of the utility industry, particularly in North Dakota, include the potential of forced shutdowns of lignite power plants. He said environmental regulations, state taxes on electricity or electrical energy fuel sources, and supply fluctuations that affect baseload operations all have the potential to negatively impact lignite power plants. He said natural gas-powered generation units and wind-powered generation units are currently

the most common generation units being constructed. He said some states have implemented maintenance fees, specific generation requirements, or utility restructuring to support coal- and nuclear-powered generation units. He said the United States Department of Energy conducted a study on electrical grid reliability to evaluate challenges in electrical markets.

In response to a question from Representative Brandenburg, Mr. Skabo said electricity production from natural gas has increased because of low natural gas prices resulting from the large supply of natural gas available from fracturing. Mr. Niezwaag said federal regulations also contributed to the growth of electricity from natural gas.

Electrical Markets and Grid Reliability

Mr. Anthony T. Clark, Senior Advisor, Wilkinson Barker Knauer, LLP, provided comments regarding a summary of primary factors influencing electrical markets. He said electricity production and pricing issues are regional rather than national because of a lack of a national energy policy. He said some electrical markets are facing challenges because state efforts to deregulate the utility industry prompted utilities to restructure from vertically integrated companies into independent producers and distributors. He said electricity is dispatched based on localized marginal prices, which reflect the operating efficiency of each unit relative to the other units in a localized area. He said market pricing creates efficiency, but it may not provide compensation for reliability. He said states regulate retail electricity rates paid by end users, but the wholesale electricity prices are regulated by the Federal Energy Regulatory Commission.

In response to a question from Senator Piepkorn, Mr. Clark said the Federal Energy Regulatory Commission has the authority to impose penalties of up to \$1 million per day per violation for companies that try to manipulate energy market pricing. He said regional transmission organizations may have market monitors to watch for possible market manipulation. He said the penalties and market monitoring have significantly reduced pricing manipulation since 2005.

In response to a question from Senator Bekkedahl, Mr. Clark said the \$0 pricing for wind power does not displace electricity production from other energy sources in most markets, because production from wind power is a relatively small portion of the total production on the market.

Mr. Clark said the United States Department of Energy study on electrical grid reliability highlighted three key issues. He said the increase in electricity production from natural gas is the primary factor in the displacement of baseload production from coal and nuclear sources, according to the study. He said the study identified a decrease in electricity production from coal and nuclear sources because of regulations, including mercury emissions limits and water regulations. He said market pricing challenges may exist for electricity production from certain energy sources based on the study.

In response to a question from Representative Porter, Mr. Clark said negative prices in the energy markets may be a signal the market has too much production available or demand is too low to require production. He said energy market pricing balances the supply of electricity production with the demand from electrical consumers.

Utility Companies

ALLETE, Inc.

Ms. Julie Pierce, Vice President of Strategy and Planning, ALLETE, Inc., presented information ([Appendix H](#)) regarding ALLETE's operations. She said the company has 200 employees in North Dakota. She said ALLETE has more than 1,800 megawatts of generation capacity and anticipates approximately 500 megawatts of additional electricity production capacity will be needed by 2031 to serve the company's growing customer needs. She said ALLETE's current electricity production includes wind, hydro, solar, biomass, natural gas, and coal. She said future electricity production will primarily utilize wind, solar, and natural gas. She said ALLETE's operations are influenced by regulatory requirements from the state of Minnesota, which require the company to have 25 percent of the company's production from renewable energy sources by 2025. She said ALLETE is in the process of constructing a 42-megawatt wind project in southwestern North Dakota with operations scheduled to begin in 2018.

In response to a question from Senator Rust, Ms. Pierce said natural gas is considered a complement to electricity production from renewable energy sources because natural gas serves as a backup energy source when production from renewables is unavailable.

Basin Electric Power Cooperative

Mr. Niezwaag presented information ([Appendix I](#)) regarding Basin Electric Power Cooperative's operations. He said nine states are included in the cooperative's service area, including North Dakota. He said Basin Electric Power Cooperative has more than 6,500 megawatts of generation capacity, including production from coal, nuclear, renewables, natural gas, hydro, and oil-based fuels. He said two of the company's baseload coal power plants

along with two natural gas peaking plants are located in North Dakota. He said Basin Electric Power Cooperative's electricity generation from wind is obtained through purchased power agreements. He said the output has exceeded expectations. He said the cooperative anticipates 1,000 megawatts of additional capacity will be needed by 2035 to meet demand.

Great River Energy

Mr. Rick Lancaster, Vice President and Chief Generation Officer, Great River Energy, presented information ([Appendix J](#)) regarding Great River Energy's operations. He said Great River Energy has 3,500 megawatts of generation capacity, including 710 megawatts from renewable energy sources. He said the company's energy production includes 60 percent from coal, 18 percent from market purchases, 13 percent from renewable sources, 7 percent from hydro, and 2 percent from natural gas. He said 46 percent of the company's generation capacity is from natural gas, but production from natural gas is only 2 percent because natural gas is a backup for renewables and a source of production during peak demand. He said Great River Energy retired the Stanton Station coal power plant on May 1, 2017, resulting in the displacement of 68 employees, including 34 reassignments, 27 severance payouts, and 7 resignations. He said a 300-megawatt wind project in Emmons and Logan Counties will provide power for Great River Energy when construction is complete in 2020. He said Great River Energy's generation capacity is forecasted to meet customer needs through 2032.

In response to a question from Representative Mock, Mr. Lancaster said decommissioning efforts are ongoing at the Stanton Station coal power plant with demolition scheduled for 2019.

In response to a question from Representative Porter, Mr. Lancaster said the company's excess capacity is offered for sale in the market, but may not be utilized if the clearing price is less than the offer price. He said the excess capacity is primarily related to natural gas peaking plants, which are less economical than other energy sources. He said some of the company's production costs have increased because of the renewable energy production mandate required by the state of Minnesota.

Minnkota Power Cooperative

Ms. Stacey Dahl, External Affairs and Communications Manager, Minnkota Power Cooperative, presented information ([Appendix K](#)) regarding Minnkota's operations. She said the cooperative's primary electricity generation is located in North Dakota and includes 733 megawatts from coal, 103 megawatts from hydro, 459 megawatts from wind, and 34 megawatts from other sources. She said the cooperative anticipates electricity generation capacity will meet member's needs through 2038. She said the Minnkota Power Cooperative is in the process of evaluating future generation options beyond the scheduled useful life of the coal power production facilities.

Montana-Dakota Utilities

Mr. Skabo presented information ([Appendix L](#)) regarding the operations of Montana-Dakota Utilities. He said the company serves over 140,000 electric customers in North Dakota, South Dakota, Montana, and Wyoming. He said Montana-Dakota's electricity generation capacity totals 828 megawatts, including 47 percent from coal, 24 percent from natural gas, 20 percent from renewables, and 9 percent purchased from other sources. He said additional production capacity may be needed by 2022. He said the company is in the process of evaluating the feasibility of constructing a new combined cycle natural gas facility with capacity for up to 259 megawatts. He said the federal production tax credits for wind energy have benefited the company's customers and do not significantly impact the dispatch of energy from other energy sources in the MISO region. He said tax increases or other regulatory changes that increase the operating costs of wind power in North Dakota may result in wind projects being developed in surrounding states because of the regional nature of electricity production.

In response to a question from Senator Unruh, Mr. Skabo said utility rates have increased even with the federal production tax credits for wind because of increased costs in other areas of operations, such as new transmission line construction.

Otter Tail Power Company

Mr. Bradley E. Tollerson, Vice President, Energy Supply, Otter Tail Power Company, presented information ([Appendix M](#)) regarding Otter Tail Power Company's operations. He said the company has approximately 800 megawatts of electricity generation capacity, including 245 megawatts from wind power. He said construction on a 150 megawatt wind project in Merricourt, North Dakota is anticipated to be completed in 2019. He said the company's electricity production from renewables and natural gas is anticipated to double by 2022 compared to production levels in 2012. He said the increased production from renewables and natural gas will replace production from coal.

Xcel Energy, Inc.

Mr. Philip J. Martin, Resource Planning and Bidding Director, Xcel Energy, Inc., presented information ([Appendix N](#)) regarding Xcel Energy's operations. He said the company serves 94,000 electric customers in North Dakota and has 141 employees in the state. He said the company is investing \$600 million in the Border Winds and Courtenay wind projects, which will result in 24 full-time jobs, \$1.45 million in annual tax revenue, and \$1.67 million in annual payments to property owners. He said the company's electricity production from wind is anticipated to increase from 15 percent in 2016 to 37 percent in 2030, while production from coal is anticipated to decrease from 29 percent in 2016 to 14 percent in 2030. He said Xcel Energy is in the process of planning for the potential retirement of coal and nuclear power plants in the Midwest in the next 20 years.

In response to a question from Representative Koppelman, Mr. Martin said Xcel Energy will likely invest in new wind projects and natural gas facilities for future electricity production. He said production from coal and nuclear does not appear to be economical for future operations because of the regulatory environment and the operating costs associated with those fuel sources.

Panel Discussion

At the request of Chairman Wardner, Mr. Clark led discussions with the utility industry representatives. He asked the industry representatives for comments regarding tax policies that increase taxes on one energy source or decrease the tax on other energy sources to support the competitiveness of a certain energy source.

Ms. Dahl said research indicated that the cost to provide a production tax credit for coal energy was too high to be feasible. She said tax increases on energy production from any source are generally passed on to the end users and may not change the type of energy production utilized by a company.

Mr. Clark asked each of the industry representatives for comments regarding the impact of negative pricing offers for wind power in the electrical market.

Mr. Niezwaag said the federal production tax credit for wind power can impact market pricing, but the impact on the energy market is insignificant. He said baseload production facilities are experiencing a much larger impact on maintenance and system performance due to frequent changes in power production as production from renewable sources fluctuates during the day.

Mr. Skabo said Montana-Dakota Utilities does not use negative pricing in its offers to sell power.

Mr. Tollerson said Otter Tail Power Company has offered some power with negative pricing from wind turbines that receive the federal production tax credit. He said the negative pricing offers are infrequent.

Mr. Lancaster said wind power with negative pricing usually occurs when wind turbines are generating significantly more power than expected or when electricity demand is lower than expected.

Ms. Dahl said Minnkota Power Cooperative offers wind power at a wide variety of prices.

Ms. Pierce said negative pricing for wind can impact coal power plant operations particularly during the night when demand is lower, but wind production may be higher. She said coal power plants may have to decrease production more frequently which can result in more maintenance. She said the phase down of the federal production tax credits for wind power may reduce the occurrence of negative pricing.

Mr. Martin said the completion of new transmission lines connects markets in the region and helps provide outlets for the power, which may reduce the occurrence of negative pricing.

OTHER

Chairman Wardner thanked Mr. Clark and the industry representatives for their participation in the meeting. He said the committee will meet at the end of January 2018 to receive more information related to the committee's study of wind energy taxation.

Chairman Wardner recessed the meeting at 4:15 p.m. and reconvened the meeting on Tuesday, October 10, 2017, at 7:45 a.m. in Room 335, National Energy Center of Excellence, Bismarck State College. He said the committee will attend an energy conference to receive information about updates in the energy industry.

Chairman Wardner recessed the meeting at 7:50 a.m. for attendance at the 2017 Great Plains and EmPower ND Energy Conference.

Chairman Wardner reconvened the meeting at 4:05 p.m. He said the committee's next meeting will be in Dickinson on Monday and Tuesday, October 30-31, 2017.

No further business appearing, Chairman Wardner adjourned the meeting at 4:10 p.m.

Adam Mathiak
Fiscal Analyst

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