

NORTH DAKOTA LEGISLATIVE COUNCIL

Minutes of the

ENERGY DEVELOPMENT AND TRANSMISSION COMMITTEE

Thursday, December 6, 2007
Roughrider Room, State Capitol
Bismarck, North Dakota

Senator Rich Wardner, Chairman, called the meeting to order at 10:00 a.m.

Members present: Senators Rich Wardner, John M. Andrist, Robert M. Horne, Ryan M. Taylor, Herbert Urlacher; Representatives Wesley R. Belter, Scot Kelsh, Matthew M. Klein, Shirley Meyer, Todd Porter

Members absent: Senator Ben Tollefson; Representative Dave Weiler

Others present: Bob Skarphol, State Representative, Tioga

Merle Boucher, State Representative, Rolette

See [Appendix A](#) for additional persons present.

It was moved by Representative Porter, seconded by Senator Urlacher, and carried on a voice vote that the minutes of the previous meeting be approved as distributed.

TOUR OF TESORO REFINERY

The committee toured the Tesoro Refinery in Mandan. Mr. Ronald Day provided a description of the facilities. He said the refinery has a 60,000 barrel per day nameplate and needs light sweet crude. He provided handouts on the refinery which are attached as [Appendix B](#).

Mr. Al Anderson, Manager, Tesoro Refinery, Mandan, gave a presentation on petroleum markets and political issues relating to petroleum. A copy of his presentation is attached as [Appendix C](#).

In response to a question from Representative Skarphol, Mr. Anderson said Tesoro has invested about \$100 million in the last four years to lower sulfur content.

In response to a question from Representative Skarphol, Mr. Day said an environmental impact statement would be required for a new refinery. He said because an environmental impact statement is part of the process of building a new refinery, it would take 10 years to complete a new refinery. He said expanding a refinery takes approximately three years. He said the regulatory environment in North Dakota is good because to get the permits to expand it takes approximately three months, whereas in other states it may take three years. He said if a refinery is expanding and there is no major increase in emissions, only state permits are required.

In response to a question from Senator Andrist, Mr. Day said if there are reduced emissions through new equipment, the refinery may bank credits for up

to five years for an expansion. He said these credits may be extended to 10 years.

In response to a question from Representative Skarphol, Mr. Anderson said pipeline capacity is a limit on expansion. He said there are three pipelines out of the Williston Basin and one transports oil to the refinery in Mandan. He said the refinery could supply North Dakota with all the diesel and gas required by the state if all sales were in North Dakota. He said 60 percent of gas and 25 percent of diesel from the refinery goes to Minnesota.

In response to a question from Representative Boucher, Mr. Anderson said this state on net does not import any refined gas; however, in reality the state imports and exports approximately 50 percent.

In response to a question from Representative Skarphol, Mr. Anderson said the refinery would like to move refined product to South Dakota. He said the tariff structure makes it cost-prohibitive to get more capacity on a refined products pipeline. He said the Oil and Gas Research Council plays a useful role to industry and is a great role for government to play in the oil and gas industry.

In response to a question from Representative Belter, Mr. Anderson said a new refinery in Williston would not be able to compete with expansions in existing refineries because of costs. He said Tesoro plans to increase capacity by 15 percent; however, a pipeline for refined products will be needed to carry this capacity.

In response to a question from Representative Skarphol, Mr. Anderson said the expansions of refineries in Montana and Minnesota recently increased production equal to the size of the Tesoro Refinery.

In response to a question from Representative Skarphol, Mr. Anderson said the key for investment in refinery operations is a predictable supply of oil to refine. He said it is difficult to encourage investment if government sends mixed messages. He said there needs to be more refineries; however, there needs to be less gas usage.

In response to a question from Senator Urlacher, Mr. Anderson said pipeline capacity may be increased with pumps and drag reducing agents; however, there needs to be a loop to Jamestown.

Mr. Ron Ness, North Dakota Petroleum Council, answered questions for the committee. In response to a question from Senator Horne, Mr. Ness said crude oil production is growing in this state. He said there

has been an expansion of the Enbridge pipeline to increase capacity. He said there is continued investment in production.

In response to a question from Representative Boucher, Mr. Ness said this state produces approximately 127,000 barrels of oil per day and the Tesoro Refinery takes approximately 60,000 of those barrels.

In response to a question from Senator Urlacher, Mr. Anderson said the refinery uses sweet crude. He said most other refineries have a coker and can use sour crude. He said the sour crude is less expensive. He said the advantage of the Tesoro Refinery is its close location to the source of the oil.

In response to a question from Senator Andrist, Representative Skarphol said the price of propane is volatile because the Minot and Grand Forks Air Force Bases have changed their secondary fuel to propane.

Representative Skarphol said the increase in oil production in Canada to 5 million barrels per day will suppress crude oil prices in North Dakota because of the capacity Canada production will use to move the oil to refineries that refine sour crude.

In response to a question from Representative Skarphol, Mr. Ness said the key is to take Canadian oil to the Gulf of Mexico refineries. This would displace Venezuelan crude.

Representative Skarphol said Wyoming refineries have long-term contracts with Canadian oil producers. He said oil pipelines are common carriers.

In response to a question from Representative Skarphol, Mr. Ness said the Tesoro Refinery is important because it can refine North Dakota crude. He said other refineries are expanding to take Canadian crude. He said North Dakota residents should buy Tesoro gasoline.

In response to a question from Representative Meyer, Mr. Anderson said there are discounts on crude in the southwest portion of this state because the crude has to be shipped south through one pipeline.

MINNESOTA EXTERNALITY UPDATE

Mr. John Dwyer, President, Lignite Energy Council, gave a presentation on the Minnesota externality proceedings. He said the Minnesota externality proceeding determines resource planning costs like the value of carbon dioxide (CO₂). In the past, he said, Minnesota has proposed a cost of \$9 per ton for CO₂ on lignite which sells for around \$10 per ton. He said recent proposals have ranged from \$9 to \$50 per ton for CO₂. He said the cost is not a tax but a factor to use by electricity companies in determining which fuel to use. He said North Dakota law does not allow externality costs. He said there are jurisdictional issues because of Minnesota applying a law to North Dakota. He said this invokes the interstate commerce clause. In 2007, he said, the Minnesota Legislature directed the Public Utilities Commission to set externality costs by January 1, 2008. The Public Utilities Commission must propose these costs to the

legislature. He said this determination is very important to future projects that sell energy in Minnesota. A copy of his presentation is attached as [Appendix D](#).

In response to a question from Representative Porter, Mr. Dwyer said this determination could go before the United States Supreme Court. He said the United States Supreme Court has original jurisdiction and can appoint a special master. He said in the 2007 session, the North Dakota Legislative Assembly appropriated \$500,000 for litigation of this matter.

In response to a question from Senator Andrist, Mr. Dwyer said North Dakota indirectly pays for the cost because of the loss to the lignite industry.

In response to a question from Representative Porter, Mr. Dwyer said North Dakota loses twice because the cost of electricity goes up in North Dakota and the coal conversion tax would go down with a high cost attributed to CO₂.

In response to a question from Representative Kelsh, Mr. Dwyer said the externality costs are assigned as part of the permitting plan and extra externality costs make the product noncompetitive.

In response to a question from Senator Wardner, Mr. Dwyer said in Minnesota an electric utility has to use the cheapest power, including externality costs.

In response to a question from Senator Horne, Mr. Dwyer said 50 percent of North Dakota lignite electricity goes to Minnesota.

In response to a question from Senator Horne, Mr. Dwyer said 50 percent of lignite electricity goes to rural Minnesota. He said Minnesota has a 25 percent by 2025 standard that drives the selection of electric power toward wind. He said Minnesota does not have a fossil fuel industry.

In response to a question from Representative Belter, Mr. Dwyer said the industry is not considering prohibiting the shipping of electric power from coal-powered generating plants to Minnesota because the liability would be too high. He said all of the companies in this state are interested in serving Minnesota's electrical needs.

In response to a question from Senator Urlacher, Mr. Dwyer said Minnesota is dependent on coal-based electricity for 66 percent of Minnesota's power. He said the United States is 52 percent dependent on coal-based electricity. He said the industry will meet the technological challenges for clean coal, but must balance consumer costs with environmental costs. He said it is not practical to eliminate coal as a source of power in Minnesota.

In response to a question from Representative Skarphol, Mr. Dwyer said about one-third of Minnesota's energy originates in North Dakota. He said North Dakota exports approximately 50 percent of the energy created in North Dakota to Minnesota. He said there is no effective trade mechanism in effect for carbon.

In response to a question from Senator Andrist, Mr. Dwyer said high externality costs for CO₂ favors

subbituminous coal because lignite has higher carbon content.

ELECTRIC ENERGY ISSUES

Mr. Mark Nisbet, Principal Manager, Xcel Energy, Inc., gave a presentation on energy issues facing Xcel Energy. He said economic vitality depends on a reliable electricity supply. He said electric consumption has doubled since 1980, but with few transmission upgrades. He said Xcel Energy is preparing for the future with plant rehabilitations, emission reductions, transmission investments, effective demand-side management, increased energy conservation measures, and utilization of renewables. A copy of his presentation is attached as [Appendix E](#).

In response to a question from Representative Boucher, Mr. Nisbet said nuclear power is coming back in favor because of the low cost. He said the storage of spent fuel is the major issue with nuclear energy. He said the demand for wind energy is growing. He said it is relatively inexpensive to build a gas-powered power plant, but the price of natural gas fluctuates. He said coal provides long-term contracts and dependable electrical generation. He said over 40 percent of the power used by Xcel Energy is carbon-free.

In response to a question from Representative Klein, Mr. Nisbet said there is a 40 percent utilization rate of the Velva wind turbines. He said the subsidy on wind runs out next year but is highly likely to be renewed.

In response to a question from Representative Porter, Mr. Nisbet said Xcel has a 16 percent renewable footprint. He said the category of power purchased of "other purchases" is not otherwise categorized. He said the 9 percent of "other purchases" is made on hot days on the spot market. He said he did not think much of that power would be renewable power because there is not much spare renewable power on the spot market.

In response to a question from Senator Andrist, Mr. Nisbet said the 2 percent increase per year in energy demand for Xcel will be met by wind. He said other states are looking at conservation to meet energy demand.

In response to a question from Senator Horne, Mr. Nisbet said natural gas plants will be the backup for wind power. He said coal provides a consistent baseload.

In response to a question from Representative Belter, Mr. Nisbet said if every utility used natural gas, there would be problems with the supply of natural gas being available to consumers to heat their homes.

In response to a question from Senator Taylor, Mr. Nisbet said Xcel is upgrading its nuclear plant.

In response to a question from Representative Boucher, Mr. Nisbet said at the time the decision was made, shipping Wyoming coal was cheaper than buying North Dakota coal. He said North Dakota was

competitive; however, environmental impacts were considered.

In response to a question from Representative Klein, Mr. Nisbet said at least two states, including Colorado, have special rates for green energy.

In response to a question from Representative Skarphol, Mr. Nisbet said an environmental group has determined the carbon footprint for shipping coal from Wyoming.

Mr. Curtis Jabs, Senior Legislative Representative, Basin Electric Power Cooperative, made a presentation on recent activities of Basin Electric Power Cooperative. He said Basin Electric has a portfolio of 95 percent coal-based, 4 percent renewable-based, and 1 percent gas-based power. He said Basin Electric is creating efficiency through turbine upgrades and maintenance. He said Basin Electric is diversifying with wind and gas. He said Basin Electric is increasing transmission to meet the load in oil country. He said Basin Electric is increasing the percentage of wind to meet the renewable portfolio standards. He said there is a 5.5-megawatt heat recovery site in St. Anthony on the northern border pipeline. He said Basin Electric is building a coal plant at Dry Fork Station. A copy of his presentation is attached as [Appendix F](#).

In response to a question from Representative Klein, Mr. Jabs said the water for the coal plant at Dry Fork Station will come from wells. He said the plant will be a dry cooling plant. He said this hurts efficiency.

In response to a question from Representative Meyer, Mr. Jabs said Basin Electric provides wholesale power and does not provide power at retail.

In response to a question from Senator Horne, Mr. Jabs said Basin Electric does not own property in Minnesota. He said Basin Electric is supportive of CapX 2020 and is monitoring the progress of the plan.

In response to a question from Representative Porter, Mr. Jabs said Basin Electric has a contract with Western Area Power Administration (WAPA) to meet winter peaks. He said the power is paid back when WAPA needs power. Generally, he said, Basin Electric does not receive distribution from WAPA.

In response to a question from Representative Porter, Mr. Jabs said the carbon neutrality for ethanol comes from turning coal into fuel, but there is always the entry of energy to do this process.

Mr. Jabs gave a presentation on the Great Plains Synfuels Plant. He said the plant is the only synfuels plant in the Americas. He said the plant cannot burn fine coal and that is 40 percent to 50 percent of the coal received. He said this coal is sold to Antelope Valley. A copy of his presentation is attached as [Appendix G](#).

In response to a question from Representative Skarphol, Mr. Jabs said there is no downside to using CO₂ for enhanced oil recovery besides a catastrophic leak. He said CO₂ has been safely used for oil recovery for 20 years to 30 years.

Mr. Jan Rudolf, Coyote Station Manager, Otter Tail Power Company, made a presentation on efficiency improvements at the Coyote Station. He provided information on operational practices to improve efficiency and efficiency improvement projects, including the scheduled new high/intermediate pressure turbine for 2009, which should provide a 4 percent plant efficiency improvement. In addition, he provided information on environmental upgrades and synergies with other interested parties that have not been successful. A copy of his presentation is attached as [Appendix H](#).

In response to a question from Senator Urlacher, Mr. Rudolf said opening up an air permit to burn more coal would be like getting a new permit. He said the plant operates under its original air quality permit.

In response to a question from Representative Skarphol, Mr. Rudolf said the air quality permit limits the amount of pollutants the plant can release. He said the particulate limitation is the most difficult to meet.

In response to a question from Senator Wardner, Mr. Rudolf said as to particulate, the plant is already at 99.99 percent.

Mr. Rich Voss, Vice President, Great Northern Power Development, provided a status overview on the South Heart Project. He said the South Heart Project is a synthetic natural gas plant. A copy of his presentation is attached as [Appendix I](#).

In response to a question from Senator Urlacher, Mr. Voss said Great Northern Properties is the nation's largest private coal owner and the coal reserves for the South Heart Project do not have significant amounts of uranium. He said Great Northern Properties does not mine uranium, only coal.

In response to a question from Senator Taylor, Mr. Voss said Great Northern Properties purchased the coal reserves from Burlington Northern Resources for \$90 million.

In response to a question from Senator Taylor, Mr. Voss said the water for the plant will come from the water in the seams of coal. He said the project will use as much air cooling as possible and will be almost water-sufficient with the water in the coal seams. He said mining always has an impact on nearby wells.

In response to a question from Senator Taylor, Mr. Voss said the emissions from the project are significantly cleaner than for other power plants.

In response to a question from Senator Horne, Mr. Voss said it is not the right time to go to coals-to-liquids. He said this may be an option in the future.

In response to a question from Senator Urlacher, Mr. Voss said the project designers have considered using water from oil development; however, there will need to be infrastructure to get the water to the plant. He said the water would be used mostly for cooling.

Mr. Steve Young, ADA-ES, made a presentation on an activated carbon plant in this state. He said ADA-ES stands for Armstrong, Durum, and

Armstrong-Environmental Solutions. He said the focus of the company is on clean coal technology and reduction of mercury. He said his company provides powdered activated carbon to clean flue gas of mercury in coal-fired power plants. He said an activated carbon plant is in the permitting process near the Falkirk Mine and at an alternate site to be announced in North Dakota. A copy of his presentation is attached as [Appendix J](#).

In response to a question from Senator Wardner, Mr. Young said his company came to North Dakota because of lignite. He said lignite is most suitable for activated carbon and is available in North Dakota. He said the only workable permitting laws were in North Dakota and Louisiana.

In response to a question from Senator Taylor, Mr. Young said there is potential for the Chinese to use activated carbon to remove mercury; however, at present the Chinese government is not making environmental concerns a priority.

Mr. Alan Welte, Director of Generation, Montana-Dakota Utilities (MDU) Company, gave a presentation on the company's generation resources. A copy of his presentation is attached as [Appendix K](#).

In response to a question from Senator Wardner, Mr. Welte said MDU does not have customers in Minnesota; however, the Baker wind farm project is a result of renewable standards in Montana.

In response to a question from Senator Horne, Mr. Welte said MDU is using chopped-up tires in generating electricity because of the mercury reduction that results from burning tires and because it is a consistent fuel source.

Mr. Gerad C. Paul, staff attorney, Minnkota Power Cooperative, Inc., gave a presentation on power produced by Minnkota Power Cooperative, environmental upgrades, efficiency upgrades, the use of bottom ash, and renewable projects. A copy of his presentation is attached as [Appendix L](#).

In response to a question from Representative Porter, Mr. Paul said bottom ash is used by the Department of Transportation to sand roads. He said bottom ash is classified as inert waste. He said bottom ash breaks up to a sand-like substance.

In response to a question from Representative Belter, Mr. Paul said the Langdon wind farm and the efficiencies being completed at the Milton-Young plant have produced short-term reductions in the generation of electricity; however, Minnkota Power Cooperative, Inc., is concerned with the long term.

In response to a question from Representative Belter, Mr. Paul said when baseload is needed from wind, wind typically is unable to provide the baseload.

In response to a question from Representative Meyer, Mr. Paul said the 100 percent increase in the wind turbine maintenance cost is the result of the turbines being six years old and the initial contract expiring.

In response to a question from Senator Horne, Mr. Paul said the Minnesota externality proceedings

will have an impact on Minnkota Power Cooperative, Inc., because 60 percent of its load is in Minnesota.

Mr. David Straley, Manager, North Dakota Government and Public Affairs, North American Coal Corporation, gave a presentation on the coal-to-liquids project of American Lignite Energy. He said American Lignite Energy is owned by Headwaters Energy Services, Great River Energy, and North American Coal Corporation. He said the goal of the project is to build a coal-to-liquid transportation fuel project supplied with lignite in North Dakota. He said the construction decision is scheduled to be made in 2010 and the plan is to have a plant producing gasoline or other products in 2013 or 2014. A copy of his testimony is attached as [Appendix M](#).

In response to a question from Representative Porter, Mr. Straley said the project will need another pipeline out of North Dakota. He said American Lignite Energy is working with partners and the Pipeline Authority to increase this capacity. He said this is a major issue of concern. He said the project would produce half of Tesoro's current production.

In response to a question from Senator Taylor, Mr. Straley said the project will produce gas, and not diesel, because of a marketing study and because diesel requires a large investment and more coal.

In response to a question from Representative Belter, Mr. Straley said the product produced should be competitive with oil at \$40 per barrel. He said the issue that is a barrier to complete the project is not economics.

In response to a question from Representative Skarphol, Mr. Straley said a major issue would be carbon sequestration, perhaps through enhanced oil recovery.

In response to a question from Representative Klein, Mr. Straley said the project would not need a subsidy, but would need a guarantee. He said OPEC could flood the market and shut the project down. He said there would need to be a federal guarantee so if oil fell below a certain price, the plant would receive a payment.

Mr. John Weeda, Great River Energy, gave a presentation on Great River Energy generation plants, including Coal Creek Station and Stanton Station. In addition, he provided information on renewable energy projects; efficiency improvements, including turbine upgrades and coal drying; and conservation

programs. He provided information on Blue Flint Ethanol, Great American Energy, and Spirit Wood Industrial Park. A copy of the presentation is attached as [Appendix N](#).

In response to a question from Representative Belter, Mr. Weeda said the cost of wind energy is rising. He said the cost has risen from 3.5 cents to 5.5 cents per kilowatt-hour with subsidy. He said the natural gas market varies wildly. He said the cost of electricity from natural gas can vary from 8 cents to 9 cents per kilowatt-hour at low price to 14 cents to 16 cents per kilowatt-hour at high price.

In response to a question from Representative Belter, Mr. Weeda said people outside the electric industry are not certain how their behaviors can affect the wholesale cost of electricity, in particular, the need for backup generation for wind and attendant costs.

In response to a question from Representative Porter, Mr. Weeda said there will not be an improvement seen from coal drying until 2009.

UPDATE BY PUBLIC SERVICE COMMISSION

Ms. Susan Wefald, Commissioner, Public Service Commission, provided written testimony on recent activities of the Public Service Commission. She said in order to interconnect with the electric transmission grid, each generating project must go through the interconnection queue with the Midwest Independent System Operator. She said the queue uses the first-in first-out process. She said this process is unworkable because of the number of the wind generation projects in the queue. A copy of her testimony is attached as [Appendix O](#).

In response to a question from Representative Boucher, Ms. Wefald said transmission is a very important part of wind projects.

No further business appearing, Chairman Wardner adjourned the meeting at 4:20 p.m.

Timothy J. Dawson
Committee Counsel

ATTACH:15