

# NORTH DAKOTA LEGISLATIVE MANAGEMENT

## Minutes of the

### ENERGY DEVELOPMENT AND TRANSMISSION COMMITTEE

Monday, October 3, 2011

Red River Assembly Rooms, Coal Creek Station  
West of Washburn, North Dakota

Senator Rich Wardner, Chairman, called the meeting to order at 9:00 a.m.

**Members present:** Senators Rich Wardner, John M. Andrist, Lonnie J. Laffen, Stanley W. Lyson, Ryan M. Taylor; Representatives Todd Porter, Shirley Meyer, Mike Schatz, Gary R. Sukut

**Members absent:** Senator John Warner; Representatives Michael D. Brandenburg, Scot Kelsh

**Others present:** See [Appendix A](#)

**It was moved by Senator Andrist, seconded by Representative Schatz, and carried on a voice vote that the minutes of the August 18, 2011, meeting be approved as distributed.**

The committee toured the Coal Creek Station and the coal drying facilities.

Ms. Diane Stockdill, Environmental Coordinator, Great River Energy, gave a presentation ([Appendix B](#)) on coal combustion residues. She said 56 percent of the coal combustion residues is fly ash. She said coal combustion residues are managed 40 percent through landfills, 30 percent through beneficial use, 19 percent through surface impoundments, and 11 percent through mine fill. She said as a result of the Tennessee Valley Authority Kingston Fossil Plant release in 2008 of coal combustion residues due to a dam failure, the Environmental Protection Agency (EPA) has proposed new rules. She said there are two options for the rules. One option is to regulate coal combustion residues as hazardous waste and another option is to treat the residues as municipal waste. She said environmental groups and individual citizens favor regulation under Subtitle C as hazardous waste and states and industry groups favor regulation under Subtitle D as municipal waste. She said the estimated cost of Subtitle C regulation is \$76 million in capital costs. She said this does not include operation and maintenance. She said the capital cost for Subtitle D regulation is \$15.5 million. She said hazardous waste may not be sold for beneficial use. She said fly ash is sold for roads and to the oil industry to stabilize pits. She said Subtitle C regulation will cost \$79 billion to \$110 billion over 20 years and produce 183,900 to 316,000 job losses in electric power generation, coal mining, food service, real estate establishments, and repair construction of nonresidential structures. She said Subtitle D costs to industry would be \$23 billion to \$35 billion over 20 years and would result in job losses of 39,000 to 64,700. She said there might be gains in hazardous waste management and coal combustion residues

handling and equipment manufacturing. She said concrete represents 15 percent of the total infrastructure of the United States, and 75 percent of concrete uses fly ash. She said fly ash is approximately 15 percent of the makeup of concrete. If fly ash is regulated as hazardous waste, she said, the result will be a \$105 billion increase in costs to build roads over the next 20 years. She said this cost is a \$5.32 billion annual direct cost of \$2.5 billion in price of materials and \$2.73 billion in shorter pavement and service life of concrete.

In response to a question from Senator Laffen, Ms. Stockdill said the National Defense Fund issued a report in which this state's program was found inadequate in regulating coal combustion residues. She said the study by the National Defense Fund only looked at the State Water Commission rules and did not look at the State Department of Health rules and made an erroneous conclusion. She said this error could have been made accidentally but calls into question the rest of the study as it relates to other states.

In response to a question from Senator Andrist, Ms. Stockdill said the fly ash in this state is used in other states for concrete. She said the states and industry are on the same side as to fly ash regulation. She said the rule as to the regulation of coal combustion residues is a proposed rule and not ready for a challenge in court.

Senator Wardner said the Legislative Assembly should comment on rulemaking, because the average person does not comment.

Mr. Kevin Cramer, Commissioner, Public Service Commission, provided written testimony ([Appendix C](#)) on North Dakota's surface coal mining regulatory program. He said the first reclamation law in this state became effective in 1970. He said the federal Surface Mining Control and Reclamation Act was enacted in 1977. He said in 1979 the Legislative Assembly amended state law to conform to the federal Act. He said the commission adopted comprehensive rules to comply with the federal regulations. He said the Office of Surface Mining approved North Dakota's coal regulatory program in the late 1980s, and these regulatory programs have been relatively stable for more than 20 years. He said the commission's Reclamation Division conducts mine inspections. He said the inspections are conducted without prior notice to the mining company, and large mines are inspected at least two times per month. He said any person can

file a complaint with the commission regarding an alleged violation of reclamation law. He said the staff from the Reclamation Division will conduct an inspection and respond to the complaint in writing.

Mr. Cramer said the postmining industrial lands are used primarily for the disposal of coal ash from power plants near the mines. He said mine lands used for ash disposal are permitted by the State Department of Health for waste disposal. In addition, he said, the county needs to approve this land use. He said the site remains under the jurisdiction of the State Department of Health for a long time so there is ground water monitoring. He provided a graph that shows that the running total of acreage disturbed by mining, acreage of reclaimed land that has been resoiled and seeded, and the reclaimed lands that have been finally released. He said the graph shows that acreage reclaimed each year is equal to that disturbed.

Mr. Cramer said in the spring of 2010, the commission received a permit application from South Heart Coal, LLC, to permit 4,581 acres of a new mine southwest of South Heart in Stark County. He said this application was deemed complete in January 2011. He said an informal conference was held in June 2011 on South Heart Coal's application that was attended by about 100 people. He said most of the concerns related to the closeness of the proposed mine to the Theodore Roosevelt National Park. He said the mine would be located about 15 miles southwest of the park. He said the informal conference will be reconvened once the Reclamation Division completes its review of the deficiency response which is expected not until early 2012.

Mr. Cramer said the underground coal gasification process involves the combustion of in-place coal seams and extracting the combusted gases to produce a synthetic gas, similar to that produced at the Dakota Gasification Plant in Beulah. He said Great Northern Project Development has expressed interest in underground coal gasification as a possible method to develop some of the coal resources in Montana and North Dakota. He said the federal regulations currently apply underground coal mining standards to the in situ coal gasification process. He said the primary concerns about the underground coal gasification process are ground water contamination and disruption and possible surface subsidence above coal seams that are gasified.

Mr. Cramer said the Department of Interior Office of Surface Mining oversees the commission's administration for the coal regulatory program. He said the Office of Surface Mining currently funds 64 percent of the commission's coal regulatory program costs, and the remaining 36 percent comes from the state general fund. He said in the last few years the Office of Surface Mining has decided the state coal regulatory programs need to come under greater scrutiny, and there have been more federal inspections of mines.

Mr. Cramer said the Office of Surface Mining is continuing to work on a new comprehensive stream protection rule. He said the new rule will change the stream definitions to provide more protection to ephemeral streams. He said the rule will redefine approximate original contour for regrading standards and will require the use of more native species when planting reclaimed lands. In addition, he said, the Office of Surface Mining is conducting outreach for proposed rules for the placement of coal ash in mine lands. As envisioned, the placement of coal ash in mine lands would have to be considered a beneficial use to be regulated under the Office of Surface Mining rules. If mine placement of coal ash is considered to be disposal, he said, the ash would come under rules that will be adopted by the EPA.

Mr. Cramer said federal funding for state coal regulatory programs has been a concern for the past two years. He said the Office of Surface Mining budgets proposed reducing the federal share by about 15 percent. He said the Office of Surface Mining has funded at least 50 percent of the state program's costs. He said the current federal funding percentage for North Dakota's regulatory program is 64 percent due to the federal coal tracks that are in mining permits. He said it appears that the current administration will continue to try to cut federal funding for state programs. He said the Office of Surface Mining plans a new federal rulemaking to recover some of the federal share of state regulatory program costs. He said this plan will be done in phases. He said the first phase will address the collection of funds from the coal industry to cover some of the costs of regulating mines where the Office of Surface Mining is the direct regulatory authority. He said another phase would recover some of the state program costs. He said a national permit fee would be set and collected from mining companies. He said these funds would be returned to the states. States would be allowed to opt-out of the federal fee collection system, he said, but the state would have to generate its own revenue for the program.

In response to a question from Senator Wardner, Mr. Cramer said the state was ahead of the federal government in coal mine regulation as to reclamation.

In response to a question from Representative Meyer, Mr. Cramer said who owns the land after reclamation is a matter of the agreement between the mine and the landowner. He said the commission does not regulate this agreement.

In response to a question from Senator Wardner, Mr. Cramer said the Office of Surface Mining provides approximately \$1.7 million per biennium to the commission.

In response to a question from Senator Andrist, Mr. Cramer said the federal government regulates coal because of having coal interests as a result of the second Homestead Act and federal coal Acts. He said the commission has a good relationship with the federal government on reclamation. He said the federal government cannot afford to do what the

commission does and cannot do it as well. He said the Office of Surface Mining does duplicative inspections in this state. He said the Office of Surface Mining has stated that North Dakota has an excellent coal regulatory program.

In response to a question from Senator Taylor, Mr. Cramer said most of the lawsuits this state is involved with in relation to the EPA are through the State Department of Health.

In response to a question from Senator Wardner, Mr. Cramer said Texas is similar to North Dakota in regulation of coal mines. He said this state is small and efficient. He said Texas has three times the staff. He said this state has the smallest staff and the largest jurisdiction of other public utility commissions.

Mr. David Glatt, Chief, Environmental Section, State Department of Health, provided written testimony ([Appendix D](#)) on the one-hour sulfur dioxide standard, the best available control technology and the best available retrofit technology, coal combustion waste, greenhouse gas regulation, and on rules regarding the control of several pollutants.

Mr. Glatt said the federal rule on the one-hour sulfur dioxide standards establishes the maximum ambient sulfur dioxide concentration that may occur in air per hour. He said the department has objected to the method proposed to determine if a given area is in attainment of the standard. He said the EPA has proposed to require that states determine compliance through air quality models. He said the state has objected because:

- The EPA has not developed a modeling protocol which the state can use to determine compliance and has not solicited public comments on the appropriate modeling technology.
- Air quality models may significantly overpredict and misrepresent actual air quality.

The state has challenged the use of models in federal court and believes actual monitoring data must be used to determine attainment.

Mr. Glatt said the department contends that Congress, through the passage of the Clean Air Act, provided the EPA authority to establish specific standards or rules, but left the decisions of how to implement the federal requirements to the states. He said the department is involved in two court cases where the EPA has challenged a state decision regarding appropriate nitrous oxide-controlled technology for lignite-fired cyclone boilers in this state. He said the state has determined that selective noncatalytic reduction is the appropriate control technology. He said the EPA believes that the selective catalytic reduction--a more expensive technology and unproven for the treatment of lignite emissions--is the most appropriate technology. He said the department disagrees with the EPA for the following reasons:

- Lignite is unique in that it contains some of the highest sodium concentrations.

- Cyclone boilers exhibit high operating temperatures resulting in aerosolization of the sodium. Aerosolization sodium is a catalyst poison for selective catalytic reduction population controls, and the rate of poisoning is not known.
- Due to the sodium content found in this state's air emissions, selective catalytic reduction vendors will not guarantee the operation of the technology.
- There have not been studies on this state's lignite that have evaluated the effectiveness of selective catalytic reduction technology in removing nitrous oxide.

Mr. Glatt said the state and the EPA are currently waiting for a determination by a federal judge in Bismarck as to whether the decision made by the state to require selective noncatalytic reduction was arbitrary.

Mr. Glatt said that in a related case, the EPA has proposed to substitute its determination for the state's determination and would require that selective catalytic reduction be installed for both the Minnkota Electric Power Cooperative, Inc., and Leland Olds electric generation units to control nitrous oxide emissions. This action is being proposed under a regional haze program federal implementation plan. The regional haze program is not about the public health but addresses visibility. The state has determined the visibility improvement between the removal efficiency of a selective noncatalytic reduction and selective catalytic reduction would not be perceptible to the human eye.

Mr. Glatt said the EPA has proposed to increase regulation of coal combustion waste. He said the states have responsibility to ensure the safe disposal of coal combustion waste without EPA oversight. He said the EPA has proposed to regulate the waste as hazardous under Subtitle C or as nonhazardous waste under Subtitle D. He said the department supports the nonhazardous designation for coal combustion waste for the following reasons:

- The current state regulations address essentially all of the concerns identified by the EPA except that the EPA does not have direct enforcement authority.
- If additional regulation is deemed necessary by the EPA, a nonhazardous designation with state control and limited EPA oversight is preferred.
- Hazardous designation has the potential to impact the beneficial use of coal ash.
- The state is concerned that the additional cost will not result in increased environmental protection in this state.

Mr. Glatt said the state is required by federal law to address greenhouse gas generation in the following manner:

- Major sources of greenhouse gases currently submit their greenhouse gas generation amounts to the EPA on a yearly basis.
- New sources that have the potential to emit 100,000 tons a year or more of greenhouse gases must go through the best available control technology review process.
- Major modifications to sources that have the potential to increase greenhouse gas emissions by 75,000 tons per year or more must also go through the best available control technology review process.

Mr. Glatt said the state is waiting for a final rule regarding the control of several pollutants that include mercury, acid gases, and metals. He said the state continues to maintain compliance with all ambient air quality standards.

In response to a question from Senator Wardner, Mr. Glatt said modeling is not based upon actual information, and this state has actual information for the last 25 years. He said the EPA mentioned modeling in the preamble to the rules and it was a surprise. He said modeling can overpredict, and the EPA goes with the maximum levels shown by modeling.

In response to a question from Representative Porter, Mr. Glatt said the state can ask for primacy if the state has a law to enforce the federal law.

In response to a question from Representative Porter, Mr. Glatt said if the state passed a law contrary to a federal rule, the state would not have a good case in a court of law. He said the state needs to have a seat at the table when rules are made so that the federal government does not take over the area completely.

In response to a question from Senator Taylor, Mr. Glatt said the department receives at least one request per week to sign on to an amicus brief in a lawsuit. He said most of the involvement by this state in lawsuits is through an amicus brief.

In response to a question from Senator Wardner, Mr. Glatt said if not for the State Department of Health's regulation of coal, the EPA would have control over coal. He said the state regulates through a primacy agreement with the federal government. He said this primacy agreement allows for the state to cooperate with the EPA. He said recently the relationship with the EPA has become more acrimonious. He said the state follows the law and science, and the EPA appears to have an agenda. He said the scientists with the department are as good as any of the scientists with the EPA.

Senator Andrist said the State Department of Health has a good culture and regulates with common sense. He said he theorizes that regulation by the federal government is not about the environment but is about making coal more expensive so green energy can compete.

In response to a question from Senator Andrist, Mr. Glatt said the EPA regulates with a one-size fits all rule and needs to look at each state.

In response to a question from Senator Wardner, Mr. Glatt said the EPA is surprised when the department tells the agency that it talks to industry. He said the most impaired environment is when there is a bad economy. He said working with industry helps promote a good environment.

Mr. Charlie Bullinger, Consultant, Generation Engineering, Great River Energy, gave a presentation ([Appendix E](#)) on DryFining. He said the objective was to restore lost performance by removing moisture in the incoming fuel stream. He said this was done by employing waste heat to reduce moisture content in the lignite. He said less moisture lessens exit gas temperature, exit gas volume, exit gas velocity, power for mills, power for fans, and duct erosion and maintenance. He said the DryFining provides a 25 percent in reduction in water released from the process. He said drying the lignite from 38 percent to 29 percent moisture improves the British thermal units (Btus) from 6,100 to 6,800 per pound. He said there is 54 percent less sulfur dioxide. He said there is 40 percent less mercury. He said there is 32 percent less nitrous oxide. He said there is 4 percent less carbon dioxide and a 4 percent improvement in cycle efficiency. He said there is a substantial reduction in routine pulverizer, boiler, and scrubber maintenance. He said DryFining is cost-effective.

In response to a question from Senator Wardner, Mr. Bullinger said the DryFining saved \$230 million. He said the savings has been passed on to consumers. He said there is a \$684 million project for a 100-megawatt facility in Canada with carbon capture. He said 45 percent of the cost is for the carbon capture. He said carbon capture will roughly double the cost of a coal-fired power plant.

In response to a question from Senator Wardner, Mr. Bullinger said environmental stewardship is important, and the plant has had a scrubber since day one. He said the plant has been improved to increase input and decrease emissions. He said the plant will convey dry coal to Spiritwood, and the ash will be returned.

Ms. Sandi Tabor, Vice President of Governmental Affairs, Lignite Energy Council, gave a presentation ([Appendix F](#)) on the lignite industry in this state with a focus on the Lignite Energy Council and the use of state money for research. She said the state produces 30 million tons of coal per year--80 percent is used to generate electricity, 13 percent is used for synthetic gas, and 7 percent is used for fertilizer products. She said the electricity from lignite is reliable and available 24 hours a day 7 days a week. In this state, she said, the average cost for electricity from coal is \$20.58 per megawatt-hour as compared to United States coal cost of \$28.57 per megawatt-hour. She said coal power keeps rates low. She said hydroelectric is the cheapest power, then coal. She said the lignite industry creates 27,000-plus direct and indirect jobs and generates personal income of \$910 million annually. She said research and development programs are funded by a 10 cent per



ton severance tax allocation and 5 percent allocation of the coal conversion tax. She said each state dollar invested has resulted in \$6 of industry match. She said the Lignite Research Council meets and provides grants for research and development. She said the Great River Energy DryFining is a result of Industrial Commission investments through the Lignite Energy Council of \$400,000 which resulted in \$13.5 million invested by the Department of Energy. She said these investments resulted in Great River Energy investing \$250 million in coal drying. She said the coal drying has led to the construction of the \$370.4 million Spiritwood Energy Power Plant fueled with 610,000 tons of beneficiated lignite from the Falkirk Mine. She said the Spiritwood Energy Power Plant is a 99-megawatt combined heat and power plant with commercial operation delayed until 2013 due to the lagging Minnesota economy. She said the Great Northern Power Development project in South Heart is being reexamined due to regulatory uncertainty regarding carbon dioxide capture and the instability of financial markets. She said the American Lignite Energy Coal-to-Liquids project is on hold pending resolution of project finance issues. She said for a coal-to-liquid project to be financially stable, a contract with the federal government would be needed for a duration of approximately 20 years.

Mr. Barclay Rogers, Director of Development, C12 Energy/Willow Grove Carbon Solutions, gave a presentation ([Appendix G](#)) on a commercial carbon storage project in Dunn County. He said carbon storage will drive projects for coal. He said the C12 Energy project is focused on the injection side of carbon storage. He said the project is in the Dakota Sands which is at 5,000 feet, and the deepest water is at 2,000 feet. He said oil development is around 10,000 feet. He says his company pays money upfront and has a royalty program that will provide \$25 to \$50 per acre per year for the landowner on a commercial-level project. He said the carbon dioxide may be used for oil recovery, and the project may be a source of that carbon dioxide. He said the project would manage the resource in a steady and reliable way.

In response to a question from Representative Porter, Mr. Rogers said the state law is generally excellent and concerns all the key elements needed for a good law. He said under the law the pore space belongs to the surface owner. He said a minor issue that needs to be addressed is the duration of the interest held by the company purchasing the pore space.

In response to a question from Senator Taylor, Mr. Rogers said the oilfields near the project are available for enhanced oil recovery. He said if the federal government regulates carbon dioxide, his company will be at the front end of carbon dioxide management.

In response to a question from Senator Lyson, Mr. Rogers said his company would like to use an easement to purchase the pore space from the surface owner instead of a lease. He said there are some issues as to duration. He said the carbon dioxide stays in the earth forever; however, the state limits the length of leases and easements. He said the company needs to have the pore space for the life of the carbon dioxide. He said his company is open with landowners, and landowners are informed of this issue.

In response to a question from Senator Andrist, Mr. Rogers said the project will take emissions from one plant for 30 years. He said it will not fundamentally address the carbon dioxide emissions problems in the world. He said carbon dioxide sequestration will play a major role, and his company is looking to the future.

In response to a question from Senator Lyson, Mr. Rogers said enhanced oil recovery with carbon dioxide is used in Texas.

Mr. Rogers said carbon dioxide is used for enhanced oil recovery in Canada since the 1990s. He said carbon dioxide is a viable way to increase oil production.

In response to a question from Representative Meyer, Mr. Rogers said North Dakota requires the company storing carbon dioxide to have 60 percent of the surface owners in the area. He said holdouts are entitled to fair and equitable compensation, but should not receive more than the people who signed up, otherwise it would be an incentive not to cooperate.

In response to a question from Representative Porter, Mr. Rogers said carbon dioxide is used in enhanced oil recovery by pushing oil and repressurizing the oilfield. He said the carbon dioxide mixes with the oil, and some is trapped. Enhanced oil recovery is a technique of sequestration.

In response to a question from Senator Andrist, Mr. Rogers said there has not been a lot of work on whether carbon dioxide can be used for enhanced oil recovery in shale.

In response to a question from Senator Wardner, Mr. Rogers said there will be one to three injection wells and some monitoring wells. He said consent is needed by the surface owner for a well to be placed on the land. He said the impact is minimal.

No further business appearing, Chairman Wardner adjourned the meeting at 3:10 p.m.

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Timothy J. Dawson  
Committee Counsel

ATTACH:7