

## NORTH DAKOTA LEGISLATIVE MANAGEMENT

## Minutes of the

**ENERGY DEVELOPMENT AND TRANSMISSION COMMITTEE**

Wednesday, February 3, 2016  
Harvest Room, State Capitol  
Bismarck, North Dakota

Senator Rich Wardner, Chairman, called the meeting to order at 8:00 a.m.

**Members present:** Senators Rich Wardner, Brad Bekkedahl, Bill L. Bowman, Philip M. Murphy, John M. Warner; Representatives Dick Anderson, Mike Brandenburg, Chuck Damschen, Ben Hanson, Corey Mock, Todd Porter

**Members absent:** Senator Kelly M. Armstrong

**Others present:** Representative Marvin Nelson, Rolla, member of the Legislative Management  
See [Appendix A](#) for additional persons present.

**It was moved by Senator Bowman, seconded by Senator Bekkedahl, and carried on a voice vote that the minutes of the November 24, 2015, meeting be approved as distributed.**

**CRUDE OIL AND PRODUCED WATER PIPELINE STUDY**

Mr. Jay Almlie, Principal Engineer, Energy and Environmental Research Center, Grand Forks, presented information ([Appendix B](#)) regarding the results of a pipeline study pursuant to 2015 House Bill No. 1358. He said the study has two phases, including a research report to evaluate regulations and pipeline leak detection and monitoring technology as well as a demonstration project to test pipeline technology. He said North Dakota had approximately 12,700 miles of gathering pipelines as of August 2011. He said North Dakota is anticipated to have approximately 36,000 miles of gathering pipelines by the year 2020. He said the oil spill volumes relative to total oil production decreased in North Dakota between 2008 and 2014. He said compared to other states, North Dakota had a lower oil spill volume relative to total oil production than New Mexico and Texas in 2014.

Mr. Almlie said the recommendations relate to infrastructure, leak and spill analysis, materials, construction, maintenance and inspection, monitoring and leak detection, and abandonment. He said the recommendations include the following:

- Develop real-time data sharing between pipeline partners.
- Apply new regulations based on successes in other pipeline sectors with adjustments for the specific operating conditions in North Dakota.
- Develop a streamlined method for spill reporting and analysis that can be accessed by multiple state agencies.
- Analyze spill data to determine the root causes of pipeline leaks.
- Evaluate the impact of minimum reporting thresholds for spills.
- Require installation crews to have proper training and independent inspections of pipeline installations.
- Monitor the development of new pipeline products.
- Require a notice of intent prior to the installation of gathering pipelines.
- Consider requiring special pipeline installation methods for environmentally sensitive areas.
- Incorporate some of the construction standards from transmission pipelines into the regulations for gathering pipelines.
- Consider implementing regulations related to hydrostatic testing and the maintenance of pipelines.
- Research low-cost external leak detection technologies.

- Demonstrate the use of unmanned aerial systems for pipeline monitoring.
- Catalog the locations of existing pipelines.

In response to a question from Senator Bekkedahl, Mr. Almlie said industry personnel report the potential cause of a spill. He said the number of spills related to operator error is unknown because of inconsistencies in the reports under the current reporting system.

In response to a question from Representative Porter, Mr. Almlie said contained spills are reported to the Department of Mineral Resources while uncontained spills are reported to the State Health Department. He said spill data may be missing or repeated because the spills are recorded in two separate databases. He said the report does not specifically recommend using one consolidated system but does recommend a streamlined reporting and database management process.

In response to a question from Senator Warner, Mr. Almlie said the recommendation related to an independent inspection process for installing gathering lines would include both third-party inspectors and state inspectors. He said the state inspectors would review the third-party inspections while the the third-party inspectors would review the pipeline installations.

In response to a question from Senator Murphy, Mr. Almlie said gathering pipelines can be tested using hydrostatic testing or pneumatic testing. He said hydrostatic testing uses a pressurized fluid while pneumatic testing uses pressurized gas. He said the report recommends the use of hydrostatic testing because of safety and noise concerns related to pneumatic testing.

In response to a question from Senator Warner, Mr. Almlie said the location of the existing pipelines that are not included in the geographic information system can be identified using various types of technology, including magnetometers and ground penetrating radar. He said some companies may have data on the location of existing gathering pipelines but most records of older gathering pipeline locations have been lost or do not exist. He said the Energy and Environmental Research Center did not analyze any potential incentives to encourage companies to locate and identify existing gathering pipelines.

Representative Porter suggested the committee discuss the recommendations of the study with industry representatives and state agencies at a future meeting.

## **PIPELINE UPDATES**

### **North Dakota Pipeline Authority**

Mr. Justin Kringstad, Director, North Dakota Pipeline Authority, presented information ([Appendix C](#)) regarding the status of pipeline projects and other pipeline updates. He said midstream companies and transportation providers are closely examining rig counts and well completions to determine the future supply of oil from the Bakken Formation. He said oil production is anticipated to decrease for the remainder of the 2015-17 biennium. He said under his forecasting model, oil production could remain below 1 million barrels per day until 2022 if oil prices remain low for the next few years. He said North Dakota oil prices are currently about \$5 to \$6 below the West Texas Intermediate oil prices. He said under the current oil prices, oil wells need to have a peak production of 1,000 barrels per day or more to provide an aftertax rate of return of at least 10 percent. He said oil wells capable of peak production of 1,000 barrels per day or more is limited to the core areas of the Bakken Formation.

Mr. Kringstad said more than half of the oil exports from the Bakken Formation are by pipeline. He said pipeline exports are anticipated to increase while rail exports are anticipated to decrease. He said rail exports are not as economical compared to a few years ago because of transportation costs and a lack of a pricing premium in coastal areas. He said approximately 500,000 barrels of oil per day are exported by rail.

In response to a question from Representative Porter, Mr. Kringstad said a unit train can transport approximately 75,000 barrels of oil. He said an average of seven unit trains per day export oil from North Dakota.

Mr. Kringstad said the Dakota Access Pipeline project received approval in North Dakota. He said the pipeline will deliver crude oil to Patoka, Illinois. He said the project is awaiting regulatory approval in Iowa. He said the Sandpiper Pipeline project is anticipated to be operational in 2017 and will allow for the export of North Dakota oil to the Great Lakes region.

Mr. Kringstad said natural gas production is anticipated to decrease for the remainder of the 2015-17 biennium. He said 85 percent of the natural gas produced is being captured and sold. He said the primary challenges for capturing natural gas are pipeline capacity and gas processing plant capacity.

### Public Service Commission

Ms. Julie Fedorchak, Commissioner, Public Service Commission, presented information ([Appendix D](#)) regarding an overview of the pipeline siting process. She said North Dakota Century Code Chapter 49 relates to the energy conversion and transmission facility siting process. She said changes approved by the 2013 and 2015 Legislative Assemblies streamlined the siting process. She said one of the changes known as the "footprint law" allows companies to install similar infrastructure within a corridor that has already been permitted. She said prior to installation of the infrastructure, the company must provide certification to the Public Service Commission. She said the commission has received two certifications related to the "footprint law."

Ms. Fedorchak said another change known as the "reprint law" allows companies to adjust the route within the permitted corridor after providing certification to the commission. She said route adjustments may be the result of potential conflicts with future infrastructure or with environmentally sensitive areas. She said the commission has received nine certifications related to the "reprint law."

In response to a question from Chairman Wardner, Ms. Fedorchak said the changes to the siting process do not impact easements. She said easements are negotiated between the land owners and the utility companies. She said a route adjustment under the "reprint law" would not require additional permitting by the commission, but may require the utility company to renegotiate existing easements or to secure new easements.

### Department of Agriculture

Mr. Doug Goehring, Commissioner, Department of Agriculture, presented information ([Appendix E](#)) regarding the Department of Agriculture's pipeline restoration and reclamation oversight program established in 2015 Senate Bill No. 2271. He said under the program, the department helps to mediate conflicts between landowners or surface tenants and pipeline companies. He said the department does not provide legal counsel or negotiate easements. He said the program also includes landowner education related to the pipeline installation process. He said as part of the education, landowners are encouraged to document the site before, during, and after construction; to evaluate the current and future uses of the land; to be aware of the installation timeline and method; and to review the reclamation process. He said the department has resolved 27 complaints from landowners since the program began in June 2015.

In response to a question from Senator Warner, Mr. Goehring said the Department of Agriculture's program relates to pipelines and does not include gravel pits or well pads. He said the department's involvement with gravel pits or well pads relates to the control of noxious weeds. He said the Department of Mineral Resources handles the reclamation of gravel pits and well pads.

## OIL AND GAS UPDATES

### Department of Mineral Resources

Mr. Lynn Helms, Director, Department of Mineral Resources, presented information ([Appendix F](#)) regarding oil and gas updates. He said North Dakota has 13,077 active oil wells, 764 that are inactive, and 969 waiting on completion services. He said West Texas Intermediate oil prices would need to return to approximately \$50 per barrel before the number of oil wells waiting on completion services decreases significantly.

In response to a question from Senator Bekkedahl, Mr. Helms said an oil well can remain inactive for 1 year after which the well must be temporarily abandoned or plugged. He said the Department of Mineral Resources is considering granting extensions for inactive wells unless royalty owners or surface owners object to the extensions. He said the process for granting extensions would probably be similar to the process currently in place for wells that have not been completed.

Mr. Helms said as the oil industry moves into the harvest phase in the Bakken Formation, well pads in the core areas will have up to 32 wells compared to 6 wells per pad along the fringes of the Bakken Formation. He said the Department of Mineral Resources anticipates a total of 65,000 wells will need to be drilled to recover the oil, an increase of approximately 50,000 wells from the current level of 14,810 wells that are active, inactive, or waiting on completion. He said oil production from an average oil well in the Bakken Formation decreases rapidly. He said after 3 years of production, the average oil well produces at 10 percent of its initial production levels.

In response to a question from Senator Warner, Mr. Helms said estimated oil recovery based on current extraction techniques is 20 percent. He said lab tests indicate that the use of carbon dioxide for enhanced oil recovery could lead to an estimated recovery rate of 90 percent.

In response to a question from Senator Bekkedahl, Mr. Helms said industry analysts anticipate that oil companies need 1 year of improved oil prices to restore their capital funding. He said the capital funding needs to be restored before oil companies significantly increase their drilling activity.

In response to a question from Representative Brandenburg, Mr. Helms said oil companies consider price hedging to be proprietary information so data regarding pricing hedges is limited. He said if oil companies were using hedges, most of the hedges at high oil prices have probably expired.

Mr. Helms said if North Dakota oil prices continue to average between \$20 to \$30, the rig count is anticipated to decrease to 30 rigs, which would be concentrated primarily in Dunn County and McKenzie County. He said North Dakota oil prices would need to average \$70 per barrel in 2016 in order to maintain an average daily production of 1.2 million barrels of oil.

In response to a question from Representative Brandenburg, Mr. Helms said the lifting costs for oil are approximately \$10 per barrel. He said some companies are delaying repairs on pumping units because wells are not economical at current oil prices.

Mr. Helms said jobs in the oil industry decreased by approximately 15,000, from 60,000 in 2014 to 45,000 in 2016. He said most of the decrease relates to drilling and fracking jobs. He said the Department of Mineral Resources' revised forecast for oil industry jobs reflects a return to 60,000 by the end of 2019 with the assumption that oil prices will steadily increase over the next few years. He said trucking jobs and truck traffic are anticipated to decrease over the next 4 years as pipeline infrastructure is developed.

In response to a question from Senator Bekkedahl, Mr. Helms said the Department of Mineral Resources' forecast for oil industry jobs is based on 2 to 2.5 jobs per well. He said as technology improves, the ratio is anticipated to decrease from 2.5 jobs per well to 2 jobs per well. He said jobs in the oil industry are anticipated to increase to approximately 150,000 by 2030. He said the department is in the process of analyzing the potential demographics associated with the jobs to better predict population increases and the infrastructure and services needs such as schools, water supply, and medical services.

In response to a question from Representative Damschen, Mr. Helms said the lifting of the oil export ban by Congress has not had a significant impact for the oil industry in North Dakota. He said oil prices may recover more quickly because oil from the United States can be sold in international markets.

Mr. Kevin Connors, Supervisor, Pipeline Program, Department of Mineral Resources, presented information ([Appendix G](#)) regarding underground gathering pipeline regulations. He said the purpose of the underground gathering pipeline program is to improve underground gathering pipeline safety and integrity. He said 2015 House Bill Nos. 1333 and 1358 provided the framework for the program. He said the Department of Mineral Resources is in the process of developing administrative rules for underground gathering pipelines. He said the rules will focus on bonding requirements, notification prior to installation, installation oversight, third-party independent inspections, reclamation, leak detection and monitoring, and spill response plans. He said the development of the program is based on 10 full-time equivalent positions, including 6 field inspector engineering technicians, 1 program administrator, 1 administrative assistant, 1 geographic information system engineering technician, and 1 database technician.

In response to a question from Representative Porter, Mr. Connors said the underground gathering pipeline program is primarily focused on the installation regulations, but may develop regulations for pipeline operations later. He said research results indicate that proper installation is the best method for preventing spills from underground gathering pipelines.

In response to a question from Senator Bowman, Mr. Connors said the regulations are based on the results of the study conducted by the Energy and Environmental Research Center, regulations in other states, industry standards, and federal standards. He said the Department of Mineral Resources received some input from industry representatives. He said the administrative rules process allows industry representatives to comment on the proposed rules. He said the regulations are intended to improve pipeline safety while allowing flexibility for industry compliance.

### **State Department of Health**

Mr. Dave Glatt, Chief, Environmental Health Section, State Department of Health, presented information ([Appendix H](#)) regarding the status of oilfield waste disposal. He said oil spill incidents decreased by approximately 600, from 2,600 in 2014 to 2,003 in 2015. He said total oilfield exploration and production waste decreased during calendar year 2015 corresponding with the decline in oil activity. He said oilfield waste collection by facility generally decreased at each facility during calendar year 2015. He said some facilities receive more oilfield waste than other facilities because of their proximity to the oil activity. He said the State Department of Health's new rules for technologically enhanced naturally occurring radioactive material include landfill permitting, disposal standards, recordkeeping, and licensing.

In response to a question from Representative Nelson, Mr. Glatt said various types of equipment are able to test the level of radiation emitted from waste material. He said some tests are conducted in a lab and require 30 days before results are available. He said some devices can provide real-time results, but have a high cost. He said waste disposal site operators would need to purchase equipment to conduct real-time testing before accepting waste material with technologically enhanced naturally occurring radioactive material.

### OTHER

Chairman Wardner said the committee will meet in Grand Forks on May 11-12, 2016. He said the committee may also meet in April 2016.

No further business appearing, Chairman Wardner adjourned the meeting at 1:20 p.m.

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Adam Mathiak  
Fiscal Analyst

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