Minutes of the

EMPOWER NORTH DAKOTA COMMISSION

June 18, 2015
Great River Energy
1611 E Century Avenue
Bismarck, ND 58503

Members present:
Al Anderson, Mark Nisbet, Mike Rud, Randy Schneider, Jay Skabo, John Weeda, Jason Bohrer, Terry Goerger, Jean Schafer for Dale Niezwaag

Ex Officio Members:
Sandi Tabor, Mark Bring, Kim Bartels for Julie Voeck, Wade Boeshans for Margaret Hodnik

Others present:
Justin Dever, Department of Commerce
Mike Fladeland, Department of Commerce
Sherri Frieze, Department of Commerce
Andrea Pfennig, Department of Commerce
Scott McNally, Dept. of Commerce/Columbia Univ.
Alexis Brinkman Baxley, ND Petroleum Council
Karlene Fine, Industrial Commission
Gaylon Baker, Stark Development
Carlee McLeod, Utility Shareholders of ND
Jay Hesse, Geronimo Energy
Emily McKay, BSC
Justin Kringstad, NDPA
Cory Fong, Odney Advertising
Mark Scheid, Ulteig Engineers, Inc.
Jeff Heinemann, Ulteig Engineers, Inc.
Ken Hellevang, NDSU

CALL TO ORDER/WELCOME

Chairman Anderson called the meeting to order at 1:45 pm and welcomed Commission members and guests.

Value Added Energy Strategy & Plan

Mike Fladeland, Dept. of Commerce

Mike Fladeland discussed the Marketing Plan to attract petro chemical business to the state.

- Develop a knowledge base of the petro-chemical industry.
- Promotion and Marketing materials
- Continue to work with companies identifying interest in ND
- Collateral activities, including incentives and infrastructure Attachment A

Overview of Energy Projects

Mike Fladeland, Dept. of Commerce

Fladeland discussed current refinery projects in the state, companies interested in the energy industry and future research and development technology. Attachment B

Great Plains EmPower ND Energy Conference

Emily McKay, BSC

McKay discussed the tentative agenda with planned speakers for the October 13, 2015 event to be held in Bismarck.

Companies that could sit on the Innovation panel was discussed. Chairman Anderson mentioned to have all comments to him by July 18th.

Perspectives on the 64th Legislative Assembly

Justin Dever, Dept. of Commerce

Dever gave an overview of the four bills that were passed by legislation; SB 2035, 2036, 2037 and 2318. Attachment C

Dever then discussed other introduced bills that were approved by not specifically endorsed by the Commission.

Dever also discussed the 2015-16 Interim Studies. Attachment D

It was discussed to possibly invite the Chancellor of the University systems to a future EmPower ND meeting.

EmPower ND's effectiveness and Potential Changes in the Future

Chairman Anderson

Chairman Anderson brought forth some issues that the commission had with the last session.

In order to correct the issues, it was mentioned to work with younger legislators who were not members of either chamber prior to earlier years of the EmPower ND Commission. This would give them a better understanding of the purpose of the commission.

It was also discussed to meet jointly with the Energy Development and Transmission Committee when workable.

Last discussion was to have someone from the Energy Development & Transmission committee help carry bills forward.

Public Comment

Ken Hellevang, NDSU, commented that the ND Alliance for Renewable Energy is interested in having an energy efficiency representative become a member of the EmPower ND Commission.

Meeting Dates and Locations

It was discussed to conduct some future meetings the Bismarck area.

For the next monthly meeting, Sherri will conduct a Doodle Poll with members to find a July or August meeting date.

ADJOURNMENT

The meeting was adjourned unanimously at 4:00 p.m.

Al Anderson Date
Chairman

Sherri Frieze Date
Recording Secretary

Marketing Plan -- Attract Petro-Chemical Businesses to North Dakota

Purpose: Promote the positive results of a study conducted by IHS Chemical and ultimately attract petro chemical businesses to the state.

Background: In an effort to add value to the abundant supply of natural gas liquids (NGLs) produced in North Dakota, the energy policy commission (EmPower ND) recommended that the 2013 Legislative Assembly provide $500,000 to conduct a study to determine value-added marketing opportunities for natural gas liquids (NGLs). In November 2013 the Department of Commerce contracted with IHS Chemical (IHS) to perform the study. They submitted a final report in June 2014 to EmPower ND and provided subsequent reports to the interim Energy Development and Transmission Committee and an updated final report to a joint meeting of the Senate and House Energy and natural Resources Committee of the 2015 Legislative Assembly.

According to IHS, "Given North Dakota's NGL advantageous feedstock and geographic customer position, the State has an opportunity to establish a petrochemicals industry in the State." Due principally to North Dakota's low cost feedstock position, the anticipated economic returns for the projects appear achievable, as demonstrated in IHS' report, ***Study to Evaluate Value-Added Market Opportunities for Natural Gas Liquids(NGLs) Produced in North Dakota,***.

Plan Components:

I) Develop a knowledge base of the petro-chemical industry:

1. An ongoing review of the study.
2. For purpose of education and networking with people in the industry, attend conferences and trade shows related to NGLs and petrochemicals
    a. NGL Forum, San Antonio, December 2014
    b. Understanding the Global Petrochemical Industry, Houston, March 2015
    c. Explore membership or participation in trade associations such as, but not limited to, the American Chemistry Council
    d. Network with the Chemical/Chemical Engineering Departments at the state research universities and the Coatings and Polymeric Materials Department at NDSU. It's expected that the university departments will also have information for contacts within the petrochemical industry
    e. Working with the ED&F research group, identify the study findings of what incentives are offered by other states, as well as their strengths and weaknesses relative to ND.

Developing a business case for presentation to prospects:

Schedule a meeting with IHS Chemical at their site or in the state, 1 or 2 days, to prepare initial presentation to 2 to 3 prospects. Commerce is collaborating with Minot Area Development Corporation to develop a Minot-specific business case. The RFP included the requirement that initial presentations to companies will be led by IHS staff.

2) Promotion and Marketing

Commerce Marketing will prepare promotional/informational materials and presentations for distribution to prospects, including mailings and exhibits for trade shows

Contact midstream companies to confirm availability and access to supplies of NGLs, ethane, propane, butane:

Suppliers include Hess, Marathon, Hi-land Partners, Aux Sable, and ONEOK

Identify and target petro-chemical company prospects (Atch 1)

They includes Sasol, Ineos, Total, Chevron Phillips Chemical, BASF, Flint Hills Resources, Toyota Tsusho, LG, Lyondellbasell, and others

Contact and schedule meetings with companies

Initial mailings (Letter and existing one-page information document) and telephone follow-up.

Conduct visits and present a business case for locating in the state. As mentioned earlier, the objective for the first 2-3 scheduled visits would be to team with a representative from IHS Chemical

3) Continue to work with companies that have identified projects and interest in a North Dakota location

Badlands NGL's, LLC

Reaction 35, LLC (CONFIDENTIAL)

GasConTec, GmBH

4)

Collateral activities, including incentives and infrastructure:

IHS believes it is imperative that North Dakota begin an appraisal and plan forward for any infrastructure developments and improvements and programs to assure labor availability, that need to be made as an enticement for investor involvement in the State and mitigate risk associated with constructing and operation these very significant petrochemical assets. Such State-driven infrastructure developments are features of successful global sites in Saudi Arabia, Singapore, Thailand, Australia, the Netherlands, Malaysia and other countries.

a) Commit to provide the appropriate infrastructure to support serious petrochemical investor(s). Such an Infrastructure investment by the State would include converting a Greenfield-site into a fully serviced Brownfield-site with expense recovery through a long-term "hosting fee" for services such as:

- Rail and truck ingress and egress to and from the state
- A developed site infrastructure including roads, utility service generation (power, water, waste treatment, fire water), general buildings. Badlands has discussed the power requirements with Montana-Dakota Utilities Co., estimated to be 100Mw.
- Housing and other support for short term (2-3 years) construction activity staffing

b) Help assure the availability of adequate labor forces across the various and changing disciplines

- Housing campus for operational and functional staffing
- Continued educational capability for skilled labor and professional functions
- R&D capability, both facility and staffing
- State-funded education in exchange for a commitment of service in the State

Project Descriptions

17 June 2015

Refineries

American Dakota Refinery -- Devils Lake

Northwest Refining, Inc. - Trenton

Quantum Energy - projects in Stanley, Berthold,Ray (?)

Williston Basin - Minot

LP Amina

Development of new environmentally sustainable raw materials for the chemical industry -- technology for coal to chemical conversion that provides an alternative platform to petroleum-based feedstock. Efficiency improvement programs for energy production from steam generator modernization to operational management of a power plant. The project will include hydrogen production for use by refineries, specifically Tesoro. They are testing the process at the Southwest Research Institute in San Antonio. Basin Electric Power Cooperative, North American Coal, and the Lignite Energy Council are following the project.

Victor Rivas/Sigma Nanofab Technologies

Skid-mounted to large scale processing of associate/flared gas into LNG. The project is not expected to advance, but has morphed into a pipe handling tool, joint venture with FlexTM in Wahpeton, and a waste cooking oil to diesel project.

Plasma Development (Rich Millard)

LEVERAGED GREEN ENERGY (LGE) is A VENTURE CAPITAL Fund owning 2 technologies key to providing an integrated organic and inorganic waste transformation solution for municipal and commercial waste, cuttings, muds, and filter socks. Frontier Risk Management (FRM) – partnered with LGE and a number of prominent oilfield service companies to develop, capitalize, and deploy a technology set designed to eliminate environmental contamination from wellhead and human activities. Rich Millard project that would convert waste into a stabilized soil amendment.

GTG Roche

Chemical processing, converting methane and ethane into methanol and a high grade gasoline, the final product. May use an Exxon Mobil process, currently not at commercial-scale, to produce a low sulfur diesel.

Novaspect

At their current facility in Mandan, the company sells, services, and reworks valve assemblies. The valve repair is handled by a Novaspect subsidiary, Midwest Valve Services.

Their ND market is divided into 3 territories, west, central and east. They will be expanding their facilities to fabricate heater-treater and other process control systems for the oil patch. They also expect to move manufacturing and assembly work that is currently done in Chicago to the Mandan location

Projects--R&D to FDtRA

Newlight Technologies

Newlight Technologies is a sustainable materials company, using carbon sequestration technology to produce clean, high-performance materials that reduce cost, maintain performance, and reverse the flow of carbon. It has invented and commercialized a carbon capture technology that combines air with methane-based greenhouse gases to produce a plastic material called AirCarbon™: a carbon-negative material that can match the performance of oil-based plastics and compete on price.

Reaction35

Reaction35, LLC is the owner and developer of the Reaction35 Technology, a three-step process for the on-purpose production of petrochemicals and fuels from light hydrocarbons. Reaction35 has made the advancement of three applications a priority:

- Propane to Polymer-Grade Propylene
- Isobutane to High Purity Isobutylene
- Ethane to Aromatics (BTX)

SCG Chemicals

Interest in constructing a steam cracker for conversion of NGLs to chemicals, primarily ethane to ethylene/polyethylene. SCG Chemicals Co., Ltd based in Bangkok, THAILAND where they have 2 world-scale crackers. We met each other in the NGL summit in San Antonio...December 2014. Forwarded the IHS report.

EMPOWER

North Dakota
LEGENDARY

Recap of the 64th Legislative Assembly

EmPower ND Commission Endorsed Legislation

The EmPower ND Commission recommended six pieces of legislation that went through the interim Energy Development & Transmission Committee and supported another bill that was introduced separately. Four of these seven bills were ultimately approved. The approved bills includes:

- **SB 2035** – Creates a sales and use tax exemption for value-added energy facilities, including fertilizer and chemical plants. This exemption includes materials used for the construction of the facility in in addition to equipment. Other provisions of the bill include:
    - A provision requiring a municipality to consult with the Department of Commerce prior to awarding a property tax exemption and having Commerce conduct a public hearing for projects that are estimated to exceed $1 billion.
    - An optional interim legislative study regarding the impact of large economic development projects on political subdivisions. This study was not prioritized by the Legislative Management committee.
    - Authority for the Industrial Commission to use $100,000 from the Oil and Gas Research Fund for a natural gas production study.
- **SB 2036** – Exempts coal from the beneficiation tax if that coal is also subject to the coal conversion tax and makes permanent the equal tax treatment of beneficiated coal which was approved in SB 2035(2009).
- **SB 2037** – Establishes a process in which all wind turbines will eventually be taxed based upon capacity and production under NDCC Chapter 57-33.2. Existing centrally assessed wind turbines will remain to be valued at their current ~~discounted~~ rates for twenty years and thereafter will be subject to the capacity and production taxation method. Other provisions of the bill include:
    - Allowing a grace period for wind energy devices on which construction started before January 1, 2015, to allow the construction to be completed by January 1, 2017, and still be eligible to receive a fifteen percent tax credit.
    - Clarifying the definition of "machinery or equipment" for the new coal mine sales tax exemption.

- An optional interim legislative study regarding wind generation taxation. This study was not prioritized by the Legislative Management committee.
- Requiring the Public Service Commission to report to an interim committee regarding the status of retail sales of electricity in the state meeting or exceeding the state renewable and recycled energy objective. This report will be made to the Energy Development and Transmission Committee.

- **SB 2318** – Creates a sales and use tax exemption for materials used in activities related to carbon dioxide for use in enhanced oil recovery and a property tax exemption for carbon dioxide capture systems.
  - The bill also includes a mandatory interim legislative study regarding the oil extraction tax exemption available for incremental production from a tertiary recovery project that uses carbon dioxide. The interim Taxation Committee will be conducting this study, along with a study contained in SB 2015 § 42 regarding the current scientific and economic information regarding oil and gas recovery and enhanced recovery techniques. SB 2015 §11 contains $400,000 for a consultant to assist in the study of oil and gas tax incentive and recovery techniques.

Additional Legislation

Additional bills have been introduced that relate to EmPower ND Commission recommendations. These bills have not been specifically endorsed by the Commission.

Infrastructure – Up-to-date infrastructure is the foundation for continuing existing development and expending into new areas.

The legislature approved the Surge Funding Bill, Senate Bill 2103, which became effective on February 24, 2015, with the Governor's signature. This bill appropriates a total of $1.1 billion from the Strategic Investment and Improvement Funds including $522 million for oil-producing areas, $128 million for non-oil-producing areas, and $450 million for state highway projects.

The legislature approved changes to the gross production tax distribution formula through the passage of House Bill 1176. This bill increases the allocation of gross production tax revenue from 25% to 30%. HB 1176 also appropriates $139,300,000 in Oil and Gas Impact Grants.

The legislature approved transportation funding that totaled $2.3 billion to rebuild and repair state highways, county and township roads, bypass routes and other statewide transportation infrastructure (HB 1012, SB 2103, HB 1176).

HB 1377 creates a Political Subdivision Allocation Fund which receives 30% of the additional oil and gas tax revenues after the other allocations are made. This fund will

#	Topic Area	Action	Cat.	Comments
I-1	Infrastructure	Support the passage of legislation within the first 30 days of the 64th Legislative Assembly related to oil and gas impacted areas infrastructure funding to ensure the early availability of adequate funding of the 2015 construction season.	2	SB 2103
I-2	Infrastructure	Support changes to the gross production tax distribution formula to provide additional funding to assist with local infrastructure needs.	2	HB 1176
I-3	Infrastructure	Support a transportation funding level that is adequate to meet the needs identified by the Upper Great Plains Transportation Institute.	2	HB 1012, HB 1176, SB 2103
I-4	Infrastructure	Recommend the immediate creation of an authority focused on regional infrastructure (roads, airports, emergency and medical services, water and waste water, etc.) that will work with communities in coordinating strategic planning efforts the hub cities of Dickinson, Minot and Williston and primary Bakken counties of Dunn, McKenzie, Mountrail and Williams. These efforts should include appropriate coordination with the supports mentioned below. o Provide periodic updates and evaluation on the progress of infrastructure development and future needs to the legislature in regards to state and community planning and investments. o Work in coordination with the Energy Impact Coordinator to understand local issues and efforts. o Assist in data gathering and coordination of infrastructure funding, providing recommendations with input from local communities and distributing agencies.	1	SB 2032 [Failed]
I-5	Infrastructure	Create a trigger mechanism that will transfer additional funds into the Oil Impact Grant Fund from the state share of the oil tax revenue when revenue exceeds certain thresholds.	1	SB 2033 [Failed], HB 1377
I-6	Infrastructure	Support expansion of existing water systems to provide capacity to meet growing community and commercial needs.	2	SB 2020
I-7	Infrastructure	Support the State Water Commission's efforts to increase access to Lake Sakakawea water for community and commercial needs to alleviate pressure on other water sources, reduce local truck traffic and improve road safety.	2	HB 1249
I-8	Infrastructure	Monitor the railroad infrastructure upgrade plan within North Dakota to ensure there is adequate ability to meet export demand of all commodities to market.	3	
W-1	Workforce	Continue support of the Housing Incentive Fund to the level suggested by the North Dakota Housing Finance Agency to meet market conditions, and consider a trigger on an annual bassis for additional funds.	2	HB 1014
W-2	Workforce	Increase efforts to educate North Dakota's youth about the state's natural resources by funding the development, implementation and sustainability of curriculum at the elementary and high-school level to encourage interest in energy careers through the North Dakota Department of Public Instruction.	2	

#	Topic Area	Action	Cat.	Comments
W-3	Workforce	Encourage and enable the energy industry to collaborate with the North Dakota University System, Governor's Workforce Development Council, Job Service North Dakota and other agencies to: o Encourage industry interaction with teachers and guidance counselors to grow youth knowledge and interest in energy careers and to better retain youth for high-demand career options. o Provide greater accessibility to career and technical education programs, especially through adequate training facilities. § Examples of the above include, but are not limited to: · science, technology, engineering, and mathematics (STEM) education · industrial equipment supplier supported programs · commercial driver's license (CDL) training sites · emergency medical services · technical trades/internships · energy careers · workforce safety careers	3	HB 1018 - externships HB 1393 - STEM initiative 1 to 1 match
W-4	Workforce	Support increase funding for workplace safety and training. o Examples of efforts include: · training workforce safety professionals · new-hire training · back-to-work efforts	3	
W-5	Workforce	Support legislation which recognizes the role distance learning will play in the future of education and improve access to technology for students using distance learning programs	3	
RD-1	Research & Development	Continue to support existing R&D programs which will ensure the development and implementation of new technologies to promote new growth for all energy resources. Consider increasing the funding level for the Lignite Research and Oil & Gas Research programs.	2	
RD-2	Research & Development	Support the additional appropriation of research dollars to be used by the Lignite and Petroleum Research Councils to support Research and Development activities to resolve the technical problems associated with the commercial deployment of carbon capture technologies, seek additional incremental improvements in the recovery of oil through enhanced oil recovery using carbon dioxide or other gases, and develop and fund a FEED study to identify commercial opportunities associated with the beneficial capture and use of CO2 as well as the need to meet the region's growing energy demand.	2	HB 1014 - $5 million for the Lignite Research program
RD-3	Research & Development	Create and implement a strategy to assist North Dakota in developing a viable petro- and bio-chemical industries.	3	
R-1	Regulatory Environment	Encourage federal agencies to recognize environmental issues unique to North Dakota and work with the agencies to develop regulations that are flexible, sensible and allow for state primacy. o Encourage state agencies to provide regular updates on energy-related issues to the Commission and identify ways in which the Commission can support agency efforts on federal issues. o Establish new venues for state and federal regulatory agencies to collaborate on federal rulemaking efforts in ways that address individual state issues.	3	

#	Topic Area	Action	Cat.	Comments
R-2	Regulatory Environment	Use the EmPower North Dakota Commission to better understand the economic impact of federal regulatory proposals on North Dakota. o Comment on proposed federal regulations with significant potential impact on the state's economy and engage the North Dakota Congressional delegation to actively challenge the implementation of final regulations posing a threat to North Dakota's economy.	3	
R-3	Regulatory Environment	Recognize the additional burdens new energy developments are placing on state regulatory agencies and provide adequate funding and staffing levels for North Dakota Department of Health, North Dakota Department of Mineral Resources, North Dakota Public Service Commission, and the North Dakota State Water Commission to ensure that each will be able to properly manage their respective programs. o Support legislative solutions which allow state agencies to design competitive compensation and benefit packages in order to retain experienced employees in the disciplines related to energy development.	2	HB 1004; HB 1014; SB 2008; SB 2020
R-4	Regulatory Environment	Encourage the State of North Dakota to identify North Dakota solutions to manage waste generated from North Dakota energy production.	3	
IC-1	Incentives	Support incentives to expand value-added energy opportunities. o Provide a sales tax exemption for value-added energy facilities including both equipment and building materials, similar to existing incentive for value-added agriculture.	1	SB 2035
IC-2	Incentives	Support incentivizing or enhancing CO2 capture, storage and enhanced oil recovery opportunities.	3	SB 2318
IC-3	Incentives	Support an extraction tax credit or offset on oil extraction for the development of technologies for beneficial use of drill cuttings.	1	HB 1390 pilot project
IC-4	Incentives	Support incentivizing or enhancing remote natural gas capture technology to minimize flaring.	3	
IC-5	Incentives	Support incentives to expand natural gas or liquid natural gas markets.	2	SB 2276 - study
IC-6	Incentives	Ensure tax certainty for wind to encourage future investment in renewable wind resources, recognizing the strategic role wind will play in continuing to enhance North Dakota's diverse energy portfolio.	1	SB 2037
IC-7	Incentives	Support incentivizing the co-location of energy-related infrastructure in the same right-of-way.	3	
IC-8	Incentives	Support removing the beneficiation tax for coal conversion facilities that are subject to coal conversion tax. Support removing the sunset on the severance tax exemption for beneficiated coal used in agricultural commodity processing facilities.	1	SB 2036
IC-9	Incentives	Sales tax exemption for oil gathering pipelines.	1	SB 2034 [Failed]