

# ANNUAL REPORT



July 1, 2008 to June 30, 2009



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## OVERVIEW

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At the request of the North Dakota Industrial Commission, the North Dakota Transmission Authority (Authority) was created by the North Dakota Legislative Assembly in 2005. Since its inception the Authority's mission has been to facilitate the development of transmission infrastructure in North Dakota. The Authority was established to serve as a catalyst for new investment in transmission by facilitating, financing, developing and/or acquiring transmission to accommodate new lignite and wind energy development. The Authority is a builder of last resort, meaning private business would have the first opportunity to invest in and/or build additional needed transmission.

By statute the Authority membership is comprised of the members of the North Dakota Industrial Commission. Sandi Tabor has served as director of the Authority since October 2006. Ms. Tabor works closely with the Executive Director of the NDIC, Ms. Karlene Fine. The Authority has no other staff, and receives no direct general fund appropriation.

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## SUMMARY OF ACTIVITIES

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Whether the issue is project development or legislative initiatives, the Authority is actively engaged in seeking ways to improve North Dakota's energy export capabilities. To be successful Authority staff must have an in-depth understanding of the technical and political challenges associated with moving energy from generator to satisfied customer. Detailed planning is a prerequisite along with outreach to potential developers and existing transmission system

owners and operators in order to meet the goals set by the EmPower ND Commission of increasing North Dakota's installed capacity of wind generation to 5,000 megawatts by 2020. Another key element for success is working with elected officials at the state and federal levels to ensure that legislation and public policy are designed to take advantage of moving electricity generated from North Dakota's abundant energy resources to local, regional and national markets.

### North Dakota Industrial Commission



John Hoeven  
Governor



Wayne Stenehjem  
Attorney General



Doug Goehring  
Agriculture Commissioner

### North Dakota Transmission Authority



Sandi Tabor  
Director

## STATUTORY AUTHORITY

Statutory authority for the Authority is found in chapter 17-05 of the North Dakota Century Code. Section 17-05-05 N.D.C.C. delineates the powers of the Authority including:

1. make grants or loans or to borrow money;
2. issue up to \$800 million in revenue bonds;
3. enter into lease-sale contracts;
4. own, lease, rent and dispose of transmission facilities;
5. enter into contracts to construct, maintain and operate transmission facilities;
6. investigate, plan, prioritize and propose transmission corridors; and
7. participate in regional transmission organizations.

Before the Authority may exercise its power to construct transmission facilities, it must follow a process defined by statute to ensure public participation and comment. In particular, the Authority must publish a notice describing the need for the transmission project. Entities interested in constructing the facilities or furnishing services to satisfy the identified needs have 180 days to respond by filing a notice of intent. If the Authority receives a notice of intent from an interested entity, it may not exercise its powers to construct unless the Authority makes a finding that doing so would be in the public interest. In making such a finding, the Authority shall consider the economic impact to the state, economic feasibility, technical performance, reliability, past performance, and the likelihood of successful completion and ongoing operation.

To enhance the Authority's bonding program, the 2009 North Dakota Legislature passed legislation allowing up to 30% of the cost of a project to be financed by selling bonds that include the moral obligation of the State of North Dakota. Under the new law up to \$240 million of the Authority's total \$800 million bonding authority may be sold with the moral obligation of the state. We believe the moral obligation component will enhance the marketability of the Authority's bonds.

## WIND FACTS

*The estimated construction cost of the infrastructure associated with the wind farms built since 2007 or announced during the last two years will exceed \$12 billion.*

*North Dakota's transmission capacity will be increased by at least 370 miles of new 230 kV transmission line which is being constructed or will be constructed to accommodate the new wind farms.*



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# KEY ELEMENT: PLANNING

In the last year transmission planning at the macro level has moved to the forefront and now represents a major portion of the Authority's workload. Through participation in several regional planning efforts and one major national focus, entities representing significant portions of the United States are now discussing how to improve the country's aging transmission infrastructure and how to improve the transmission of low-carbon and zero-carbon energy from rural areas to urban areas. Areas of common ground are being identified as well as areas of local and regional concerns in forums that encourage debate and solutions.

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- **REGIONAL GENERATION OUTLET STUDY**

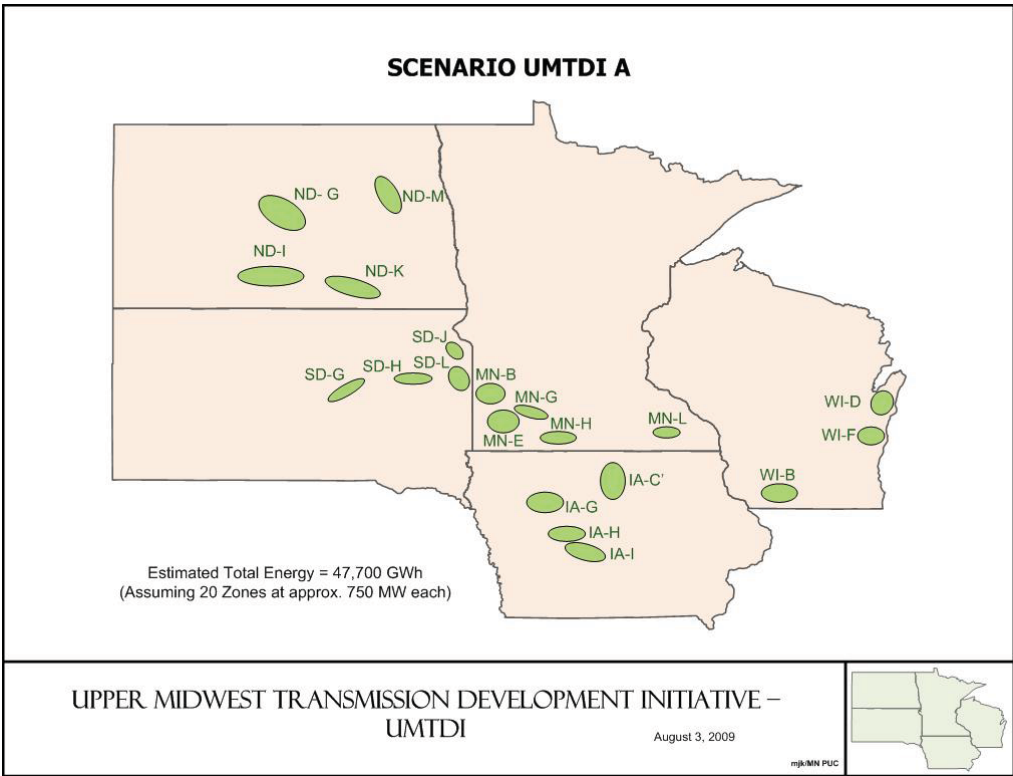
Authority staff continued to participate in meetings of the Regional Generation Outlet Study (RGOS) that is being sponsored by the Midwest Independent System Operator (MISO). This study is evaluating the impact of state specific renewable portfolio standards (RES) on MISO operations, specifically focusing on wind development. Phase I of the RGOS process focuses on transmission needs in Minnesota, Iowa, Illinois and Wisconsin, while Phase II will consider renewable portfolio standards in Michigan, Illinois, Missouri, and Ohio. The study will help define potential export markets for North Dakota by identifying potential transmission opportunities to these markets.

Late last year, RGOS Phase I released preliminary results that included potential renewable energy zones in North Dakota, South Dakota, Minnesota, Iowa and Wisconsin. Maps and associated data were forwarded to the Upper Midwest Transmission Development Initiative (UMTDI -- see below) for further review and refinement. Ultimately, the UMTDI provided new maps to the RGOS team. These maps are being used by the RGOS team to develop detailed transmission built-out options (345kV and 345/765 kV), cost estimates and capacity factor zones. The UMTDI anticipates results from the study in the fall of 2009.

- **UPPER MIDWEST TRANSMISSION DEVELOPMENT INITIATIVE**

Authority staff represents Governor Hoeven's office in a five-state study (ND, SD, MN, IA, and WI) to determine the feasibility of upgrading and/or constructing new transmission in the region. Staff participated in bi-monthly executive committee conference calls and meetings with ND transmission owners. The UMTDI study has not only identified the location of energy zones within each of the member states, but it is also evaluating ways to streamline the permitting and siting processes in each state and tackling the difficult issue of how to allocate the enormous costs associated with the build-out of transmission.

In early 2009 the UMTDI released two options for the location of energy zones within each state and is awaiting the results of the RGOS analysis of the transmission system options available to serve the zones. As the group awaits the results of the RGOS analysis, work has begun on the development of cost allocation tariff design. This process will solicit input from transmission owners, wind farm developers, independent transmission developers and other interested parties. The final report to the Governors of each member state will include recommendations regarding transmission development, streamlining of the permitting and siting process and cost allocation tariff design.

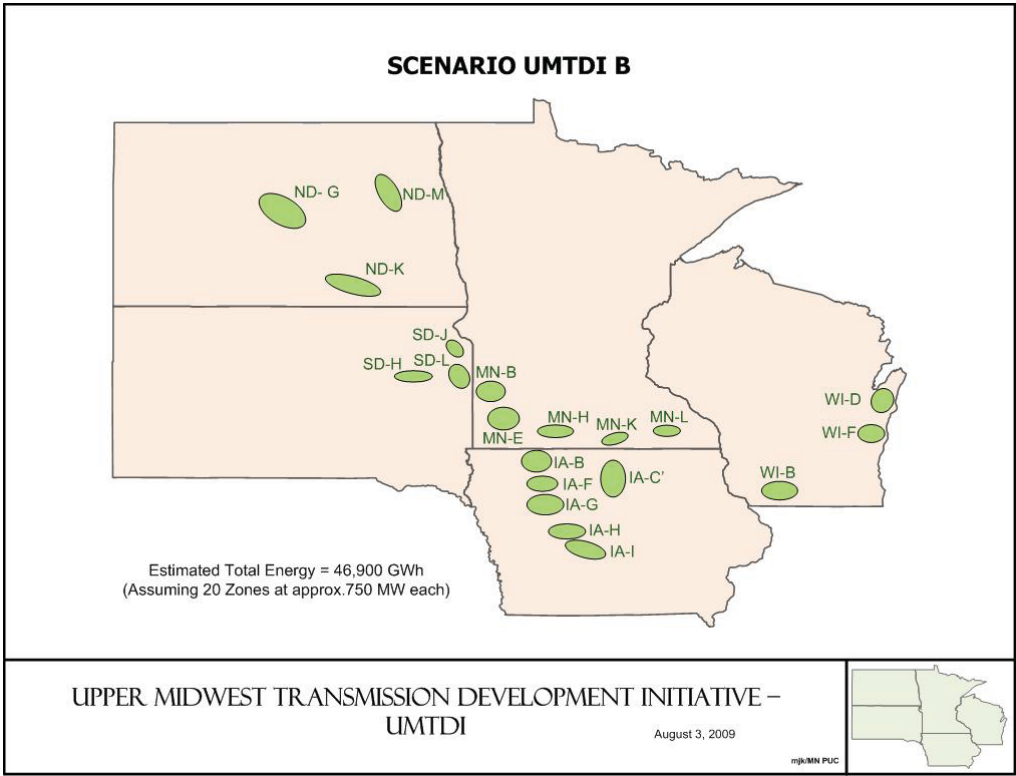


*These maps reflect two scenarios for the location of energy zones in the five member-states of the Upper Midwest Transmission Development Initiative.*

*Detailed transmission studies based on the location of the zones are being conducted by MISO through the Regional Generation Outlet Study.*

• **EASTERN INTERCONNECTION PLANNING (EIP)**

The American Recovery and Reinvestment Act of 2009 (ARRA) required states to coordinate planning in the Eastern Interconnection and provided the Department of Energy (DOE) with planning grant monies to encourage a state-led transmission planning process. The Eastern Interconnection includes 39 states and the District of Columbia. The focus of the planning process is to develop concepts for moving zero-carbon and low-carbon energy throughout the interconnection.

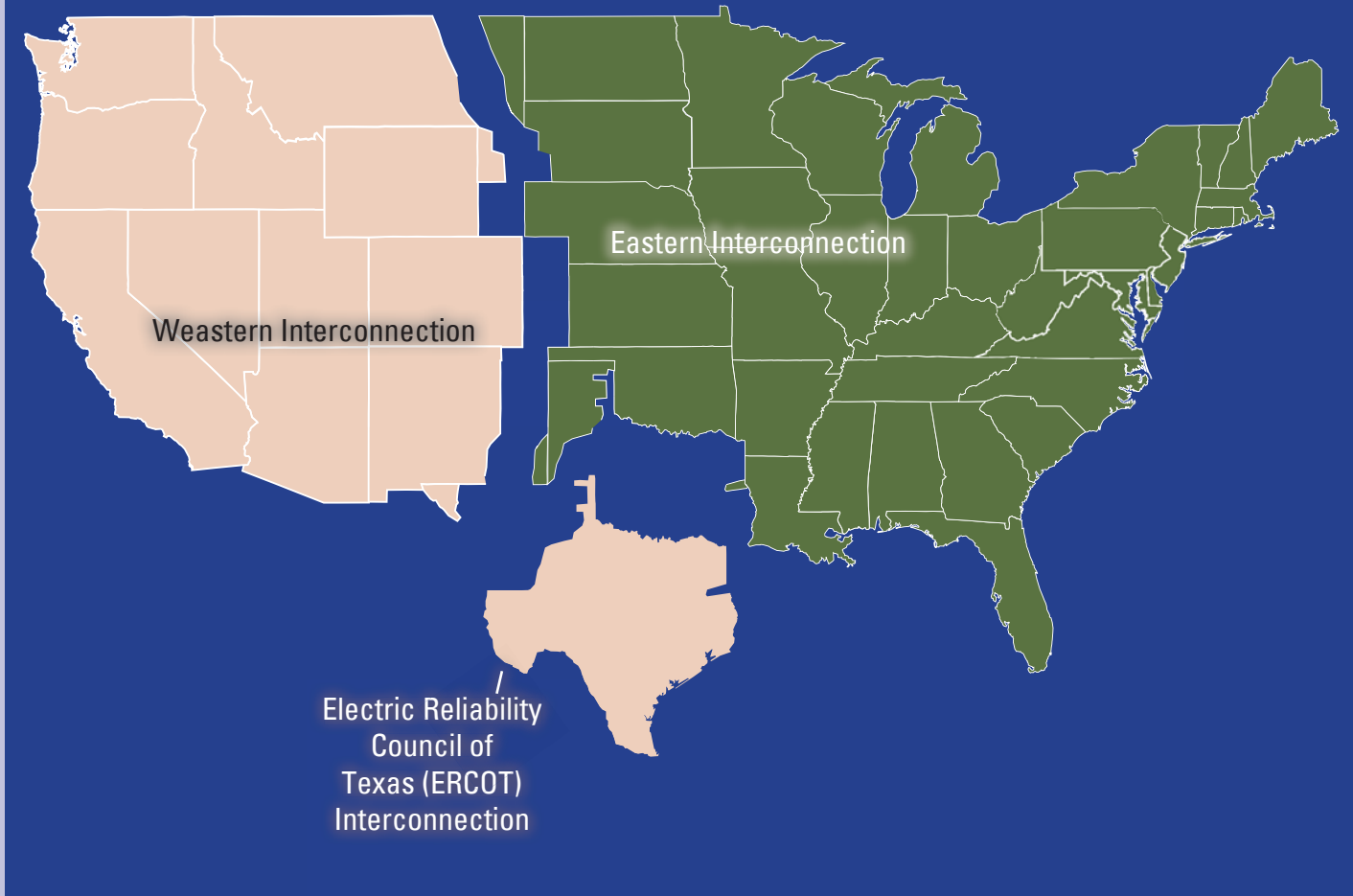


1. develop a the grant proposal and
2. develop a the organizational structure for the group.

Authority staff, representing Governor Hoeven's office participated in conference calls on each task. The grant proposal is due in September 2009.

In late June representatives from public utility regulatory agencies and the governors' offices from each state located in the Eastern Interconnection footprint met to discuss the DOE proposal and to gauge interest in filing an interconnection-wide proposal in response to the DOE grant. Representatives from 37 states were in attendance and agreed to proceed with two tasks:

## National Power Grid



*High-voltage electrical transmission lines in the United States are divided into three separate grids that make up what is often called the national power grid. All United States power utilities, except those in the states of Alaska and Hawaii, are connected to other power utilities through the national power grid. Dispatch centers maintain and control the flow of electricity over the grid, supplying electricity to meet the demand.*

- **DUE DILIGENCE PROTOCOLS**

Closer to home, the Authority is also engaged in a planning process of a different sort. In 2009 the North Dakota legislature passed legislation allowing up to 30% of the cost of a transmission project to be financed by selling bonds that include the moral obligation of the State of North Dakota. Under the new law up to \$240 million of the Authority's total \$800 million bonding authority may be sold with the moral obligation of the state.

With the new law came a need to develop a process by which transmission projects can be evaluated for associated risk and potential success. Recognizing the need for expertise in the finance area, the Authority

assembled a team representing the North Dakota Industrial Commission, the Bank of North Dakota, North Dakota Public Finance Authority and the Attorney General's Office. The team's focus is to develop due diligence protocols that will be used by the Authority to review projects submitted by transmission developers interested in securing financing through the sale of transmission bonds. In order to assure that a uniform and financially-sound risk assessment is included in the protocols, the group will be seeking permission from the NDTA to solicit proposals from bond counsel and senior underwriting services. The Authority anticipates having the due diligence protocols completed by the end of 2009.

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# KEY ELEMENT: OUTREACH

A significant element of the Authority's mission is to solicit ideas from interested parties regarding solutions to transmission constraint issues in North Dakota. Outreach can occur in many ways, whether through one-on-one contacts with individuals or by participating in organizations and programs designed to bring a wide-variety of people and groups together to share ideas and develop solutions. The Authority's outreach program includes both individual contacts and participation in larger group meetings.

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- **GREAT PLAINS APPLIED TECHNOLOGY CENTER**

In late 2008 a group of companies, in conjunction with the City of Bismarck, developed a white paper on the establishment of an applied technology center at the National Energy Center of Excellence located at Bismarck State College. The impetus for the initiative was an interest in demonstrating technology solutions to address the intermittency of wind energy. In addition to the Authority, several energy companies including Minnesota Power, Otter Tail Power, Xcel Energy, Great River Energy, Basin Electric Power Cooperative and Montana Dakota Utilities, are participating in the Great Plains Applied Technology Center.

In response to the group's efforts, the 2009 North Dakota Legislative Assembly passed language authorizing matching dollars for the construction of a building to house the center provided a feasibility study concluded that the concept had merit. The City of Bismarck submitted a grant application to the Economic Development Association for funding to conduct the feasibility study. Authority staff helped develop the grant application as well as the proposal for the feasibility study. The Center would focus on applied research, i.e. the field application of bench scale research. The City of Bismarck expects to hear about the grant in the fall of 2009.

- **UPPER GREAT PLAINS TRANSMISSION COALITION**

Another group interested in solving transmission issues in the region is the Upper Great Plains Transmission Coalition. The Coalition meets periodically to discuss recent events at the local, state, regional and federal levels. For instance, at the last meeting of the Coalition in June 2009, presentations were made by representatives from the ND Congressional Delegation, Department of Energy, CapX2020, ITC Green Power Express, Organization of MISO states, UMTDI, and state representatives. In particular CapX2020 representatives discussed future transmission development in Minnesota, including concerns about the status of the Brookings line. Staff from Senator Dorgan's office discussed national transmission legislation, noting that an amendment placed on the Senate Energy Bill by Senator Corker poses problems for developers who are interested in exporting power from the Upper Great Plains. The MISO tariff filing made on behalf of Montana-Dakota Utilities Company and Otter Tail Power Company was also discussed. The filing was made to address issues raised by both companies concerning the allocation of renewable project costs.

- **CAPX2020**

CAPX 2020 is a Minnesota-based joint initiative of 11 transmission-owning utilities formed to expand the electric transmission grid to ensure continued reliable and affordable service. Planning studies show that Minnesota customer demand for electricity will increase 4,000 to 6,000 megawatts (MW) by 2020. New transmission lines must be built in phases designed to meet this increasing demand as well as to support renewable energy expansion. The lines identified in the first phase of the effort include:

- Bemidji-Grand Rapids, 68 miles, 230-kV
- Fargo-St. Cloud-Monticello, 250 miles, 345-kV
- Hampton-Rochester-La Crosse, 150 miles, 345-kV
- Brookings County-Hampton, 200 miles, 345-kV

Of particular interest to North Dakota is the Fargo-St. Cloud-Monticello line. This line, with its associated infrastructure, could provide needed relief from the export constraint which limits North Dakota's export capacity.

- **INDEPENDENT TRANSMISSION PROJECTS**

Companies that focus solely on building transmission lines have made presentations to the Authority throughout the year. One proposal of interest is the Green Power Express being proposed by ITC Holding Corporation, a Michigan based company. The Green Power Express proposes to build 3,000 miles of 765 kV line across seven states including North Dakota.

## CapX 2020 Fargo-Alexandria-St. Cloud-Monticello proposed project study corridor



### Participating CapX 2020 utilities in the Fargo project:

- Great River Energy
- Minnesota Power
- Missouri River Energy Services
- Otter Tail Power Company
- Xcel Energy

### Proposed or modified substations:

- Alexandria (modified)
- Maple River (modified)
- Monticello (modified)
- Quarry (new)

4-23-2007

*In April the Minnesota Public Utilities Commission granted a certificate of need to construct the Fargo – Monticello line. A route permit application for the line is being considered by the MN PUC and similar permitting processes will be pursued for the North Dakota segment of the line.*

Another company interested in working with the State to develop large-scale transmission is American Transmission Company (ATC), a Wisconsin based company. ATC built or upgraded 1,700 miles of transmission lines largely in Wisconsin, northern Michigan, eastern Minnesota and Iowa. The Authority has attended several meetings with ATC representatives to discuss transmission activities in the state and regional planning initiatives.



- WIND FARM DEVELOPMENT**

A mere two years ago, North Dakota had 529 megawatts of active wind farm development.<sup>1</sup> Today, there are 1,655 megawatts of wind farm energy in various stages of development and an additional 5,088 megawatts in the planning stages. During the last year the Authority met with representatives from many of the new wind farm developments, including Minnesota Power, NextEra Energy Resources (formerly Florida Power & Light), Just Wind, Denali Energy, Xcel Energy, Minnkota Power Cooperative, and Basin Electric Power Cooperative.

The estimated construction cost of the infrastructure associated with the wind farms built since 2007 or announced during the last two years will exceed

\$12 billion.<sup>2</sup> In addition, North Dakota's transmission capacity will be increased by at least 370 miles of new 230 kV transmission line which is being constructed or will be constructed to accommodate the new wind farms.<sup>3</sup>

Given the enormity of the investment, the resolution of the thorny issue of who will pay for the new transmission is crucial. The Authority is actively engaged in cost allocation discussions through its participation in groups like the Upper Great Plains Transmission Coalition, the Upper Midwest Transmission Development Initiative and the Eastern Interconnection Planning process.

## NORTH DAKOTA ACTIVE WIND PROJECTS

Project Name	Owner	Location	Capacity (MW)	Status
Minot Wind Project	Basin Electric - PrairieWinds	Minot	2.6	In Service
Edgeley/Kulm Wind Project	FPL Energy - Basin Electric	Edgeley	40	In Service
Edgeley/Kulm Wind Project	FPL Energy - Otter Tail Power Company	Edgeley	21	In Service
Valley City Wind Project	Minnkota Power Cooperative	Valley City	0.9	In Service
Petersburg Wind Project	Minnkota Power Cooperative	Petersburg	0.9	In Service
	Sacred Heart Monastery	Richardton	0.13	In Service
Fort Totten Wind Project	Spirit Lake Sioux Nation	Fort Totten	0.1	In Service
Belcourt Wind Project	Turtle Mountain Chippewa Tribe	Belcourt	0.1	In Service
	Grafton Technical College	Grafton	0.065	In Service
	Three Affiliated Tribes	New Town	0.065	In Service
Velva Wind Project	EHN / Xcel Energy	Velva	12	In Service
	Turtle Mountain Community College	Belcourt	0.66	In Service
Wilton Wind Farm	FPL Energy - Burleigh County Wind, LLC	Wilton	49.5	In Service
Oliver County Wind	FPL Energy - Oliver County Wind, LLC	Center	50.6	In Service
Oliver County Wind II	FPL Energy - Oliver County Wind, LLC	Center	48	In Service
Langdon Project	FPL Energy - Langdon Wind, LLC	Cavalier County	118.5	In Service
Tatanka Wind Power	Acciona Energy	Dickey/McIntosh Counties	90	In Service
Langdon Project	Otter Tail Power Corporation	Cavalier County	40.5	In Service
Langdon Expansion	FPL Energy - Langdon Wind, LLC	Cavalier County	40	In Service
Ashtabula Wind Project	FPL Energy - Ashtabula Wind, LLC	Barnes County	200	In Service
Phase I	Just Wind	Logan County	368	Phase I permit issued
Luverne Wind Farm	M-Power, LLC	Griggs/Steele Counties	157	Under Construction
Gascoyne Wind Park	Crownbutte Wind Power, LLC	Adams/Bowman Counties	200	Letter of Intent Filed
Prairie Winds Project	Basin Electric - Prairie Winds ND 1, Inc.	Ward County	115.5	Permit Issued
Rugby Wind Farm	Iberdrola Renewables, Inc.	Rugby	149.1	Under Construction
Rough Rider Wind	FPL Energy, LLC	Ellendale	150	Permit Issued
Oliver County Expansion	FPL Energy, LLC	Center	1,000	Letter of Intent Filed
Hartland Wind Farm	Denali Energy	Ward/Burke/Mountrail Counties	2,000	Letter of Intent Filed
Bison 1 Wind Project	Minnesota Power	Oliver County	125	Letter of Intent Filed
Border Winds	Sequoia Energy US, Inc.	Rolette/Towner Counties	150	Letter of Intent Filed
Strasburg Project	Just Wind	Emmons County	900	Letter of Intent Filed
Merricourt Project	enXco	McIntosh/Dickey Counties	150	Letter of Intent Filed
Ashley Wind Power Project	CPV Ashley Renewable Energy Company	McIntosh County	487.6	Letter of Intent Filed
Bison 1 Wind Project	Minnesota Power	Oliver County	75.90	Hearing Scheduled
<b>Total:</b>			<b>6,743.72</b>	

<sup>1</sup> Active wind farm development refers to wind farms in operation, under construction or in receipt of a permit to construct.

<sup>2</sup> Based on information available from filings made with the ND Public Service Commission.

<sup>3</sup> Id. New transmission line data does not include the Fargo to Monticello line that is part of the CapX 2020 program.

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# KEY ELEMENT: GOVERNMENT ACTION

Providing elected officials with the information necessary to make informed decisions is another function of Authority staff. Whether the issue is setting state energy policy regarding transmission development or commenting on federal transmission legislation, the Authority serves as a resource for decision-makers. In the last year the Authority was busy on several fronts working with the following entities: the EmPower ND Commission, Governor's Office, Department of Commerce, the Tax Department, Public Service Commission, ND Legislative Assembly and the Congressional Delegation.

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- **EMPOWER ND COMMISSION**

The Authority was an active participant in the EmPower ND Commission work during 2008-2009. Authority activities included briefing the Commission on transmission issues in North Dakota and

**EmPower ND Wind Development Goal:**

Increase installed capacity of wind generation to 5,000 megawatts by 2020.

participating in the design of Commission goals. In preparation for the 2009 Legislative Assembly, Authority staff, along with other members of the Commission, participated in several meetings with the ND Tax Commissioner regarding taxation on wind projects and transmission infrastructure. These discussions led to the development of several bills relating to tax incentives for wind generation projects that were passed during the legislative session.

In early January the wind and transmission goals from the Commission's 2008 report were modified to reflect the growing interest in the North Dakota wind generation market. After much debate about the impact of additional wind to the transmission grid without increasing the export constraint, the Commission adopted the following wind development goal:

◇ Increase installed capacity of wind generation to 5,000 megawatts by 2020, for existing and regional markets conditioned upon a prior commensurate increase in North Dakota transmission export capacity and a cost-effective and equitable allocation of the associated cost to North Dakota customers that:

- maintains grid stability;
- preserves affordability for North Dakota electric rate payers;
- maintains and expands opportunities for North Dakota lignite coal and natural gas industries, including offering base-load, peaking and other services for large-scale exporting of energy; and
- maintains availability of competitively priced natural gas supplies for all North Dakota based businesses and homes.

The Commission also revised the export constraint goal increasing it to 7,500 MW.

- **NORTH DAKOTA LEGISLATIVE ASSEMBLY**

As mentioned above the Authority worked on several bills that were ultimately passed by the Legislature relating to the tax incentives for wind projects. The bills extended the tax credit until 2015 (SB 2031); made the tax exemption for wind permanent (SB 2032); and allowed excess tax credits for renewables to be carried over for a certain number of years depending on the renewable source (SB 2033).

A fourth bill introduced at the request of the NDTA was SB 2376 which allowed up to 30% of the cost of a project to be financed by selling bonds that include the moral obligation of the State of North Dakota. Under the new law up to \$240 million of the Authority's total \$800 million bonding authority may be sold with the moral obligation of the state. We believe the moral obligation component will enhance the marketability of the Authority's bonds.

- **FEDERAL LEGISLATION**

In early January Authority staff discussed the possibility of including federal tax exemption language on state issued transmission revenue bonds with Senator Conrad's office. To date the bill has not received much traction largely due to the costs associated with the program.

National transmission grid legislation has been a high priority for Congress in 2009. Bill drafts by Senate Majority Leader Harry Reid, Senator Bingaman and Senator Dorgan, to name just a few, were introduced. The bills focused on transmission planning and to varying degrees called upon state and/or regional transmission planning to be conducted. On the House side of Congress, the Waxman-Markey bill included transmission planning language but not on the same level as the Senate drafts. Authority staff reviewed and provided comments to Senator Dorgan's staff on several drafts of the Senator's national transmission grid bill. Staff also provided comments to Representative Pomeroy's staff on the transmission provisions in the Waxman-Markey bill.

- **CONGRESSIONAL BRIEFINGS**

In May 2009 the Authority briefed the Congressional delegation on key transmission issues. The briefing highlighted several key components that should be addressed in national transmission grid legislation, including:

- does not limit the type of energy resource - for example, Dorgan bill addresses renewables and fossil fuel electricity plant located at a site appropriate for carbon storage;
- encourages coordination between FERC and states;
- does not harm existing transmission systems;
- has an equitable cost allocation process;
- provides federal loan guarantees for high-voltage transmission lines;
- provides federal tax incentives for high-voltage transmission lines; and
- provides federal tax exemption for state issued transmission bonds.

Also included with the briefings were fact sheets related to the challenges facing transmission projects in North Dakota.

- **INTERAGENCY COORDINATION**

As important as everything else discussed in this report is the coordination of efforts among the various government entities with an interest in transmission development. In particular regular meetings are held with the representatives from the Public Service Commission to discuss the status of transmission projects. When business development staff from the Department of Commerce set meetings with new project developers they invite Authority staff to attend. Likewise Authority staff provide briefings on transmission issues to Commerce staff and members of the Governor's staff. In addition Authority staff provides comments and background to the Governor's staff on transmission issues raised at various regional and national meetings, like the Western Governors Association. All of these efforts make the State's response to transmission issues and opportunities more timely and seamless.

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## **CONCLUSION**

The expansion of transmission capacity in the State of North Dakota was one of the key reasons for the creation of the Authority in 2005. As many in North Dakota have discovered there are no easy answers to the perplexing questions of how to quickly expand transmission infrastructure in order to export more energy from our state. The transmission issues are complex

and changes to the system must be made with great care to ensure the reliability of the system and to maintain the ability of the system to provide electricity to its customers 24 hours a day, 7 days a week. The good news is that new transmission is being built and will continue to be built as the demand for new generation grows not only in the region, but also in the nation. The North Dakota Transmission Authority will continue to work to ensure new development.

