

North Dakota Transmission Strategies

North Dakota has vast lignite coal reserves. Studies indicate that at our present consumption rate of approximately 30 million tons per year, there is enough lignite in the coal fields of central North Dakota to last about 300 years.

Unfortunately, North Dakota lignite has a high moisture and low BTU content, both of which hinder its marketability. Our marketing solution has primarily been the development of about 4,000 MW of electric generating capability, mostly from mine-mouth lignite plants.

North Dakota also has an exceptional wind resource. There have been national studies indicating that North Dakota leads the nation in wind energy potential. Many areas are classified as having class V (excellent) or even Class VI (outstanding) wind resource potential.

So far, wind energy development in North Dakota has been limited, but turbine improvements and federal tax incentives are driving down costs to where we are starting to see some significant wind interests.

North Dakota is a rural state lacking the population and load growth needed to drive energy development. Instead, we rely on transmission export capability to out-of-state load centers located to the south and east. Present export capability is limited to about 2,000 MW and is fully subscribed. Approximately 2/3 of the energy now produced in ND is exported – primarily into Minnesota.

In addition to thermal limitations, the North Dakota transmission system operates under stability and voltage constraints caused by large amounts of generation located long distances from load. Resolving these constraints to sufficiently increase North Dakota export limits will require some major new multi-state transmission lines.

During the 1980s and 1990s substantial increases to North Dakota export capability were not economically feasible. There was excess generating capability in the MAPP pool and the costs of needed transmission expansion would have rendered any new North Dakota generation non-competitive.

But now MAPP capacity markets are tightening, natural gas prices are skyrocketing and North Dakota has begun an effort to expand its share of regional energy markets.

In 2001, the North Dakota Industrial Commission's Lignite Research, Development and Marketing Program launched its Vision 21 project. Vision 21 provided up to \$10 million in matching funds towards utility feasibility studies for new lignite-fired power plants in North Dakota. At this time it appears two projects from this effort could go forward. For more information, see the Industrial Commission's Vision 21 page at <http://www.state.nd.us/ndic/lrc-infopage.htm>

In 2003 the Upper Great Plains Transmission Coalition was formed to enable coal and wind interests to work together towards resolving transmission export constraints. The coalition is now working with the Midwest Independent System Operator, Inc. (MISO) on the North West Exploratory Study. This study is exploring transmission options for an additional 2,000 MW of new coal and wind generation in the Dakotas.

MISO has included the Northwest Exploratory Study as a regionally beneficial project in its Transmission Expansion Plan. MISO may also provide financial assistance as its Regional Economic Criteria and Benefits Task Force (RECB) is now working to develop cost sharing mechanisms for transmission upgrades within the MISO footprint.

This year, 2005 HB 1169 established the ND Transmission Authority, which operates under the ND Industrial Commission.

- The Authority may finance, develop or own transmission.
- The Authority will partner with investors and transmission providers, but can serve as a builder of last resort if others do not come forward.
- A public interest finding is necessary before building.
- Financing is limited to revenue bonds.
- State ownership is limited to transmission facilities and must include an exit plan.
- The Authority will contract out construction, operation and maintenance.
- Projects are subject to PSC siting permit requirements.
- The Authority must participate in regional transmission planning.
- Authority transmission rates cannot be challenged before the PSC.
- Patterned after the Wyoming Infrastructure Authority.

In summary, the North Dakota strategy for remote resource development has been an evolving one. There are many barriers to adding new transmission and many challenges ahead. Hopefully, bringing the right people together and giving them the right tools will bring the needed success. Thank you.

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