

Transmission in Montana

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Ramping up energy production in Montana means more energy generation and more transmission to route that power to market---but not necessarily in that order. In the energy arena, in fact, production and transmission typically travel in tandem down the development path.

New energy generation, for example a wind farm or a natural gas plant, doesn't get financed or built without transmission lines to move that power to market. And big, new transmission lines don't go up overhead without new generation to send down those lines.

The information included in this document highlights transmission projects proposed, planned, or underway in Montana. During the 2007 Special Session, legislators approved two pieces of legislation aimed at enhancing Montana's ability to move power to new and bigger markets. Other efforts around the region also are in motion to upgrade and expand the surrounding transmission network.

Background

Historically in Montana investor-owned utilities like the former Montana Power Company and the federal government, such as the Western Area Power Administration (WAPA) and Bonneville Power Administration (BPA), have constructed major transmission lines. Those lines move large amounts of power from generation sources to markets. This information focuses on efforts related to lines that are generally operated at voltages of 100,000 volts (100 kV) to 500 kV.

Montana's strongest interconnections with other regions are two 500 kV lines from Colstrip to Spokane, a 500 kV line and a 230 kV line west of Hot Springs, interconnections from Yellowtail Dam south to Wyoming, ties to the east at Miles City and Fort Peck, and a 161 kV line and a 230 kV line that runs south from Anaconda and Garrison into Idaho. ¹ (Figure 1)

Montana's transmission system is part of the Western Interconnection Transmission System, and because transmission lines cross state boundaries, the federal government, through the Federal Energy Regulatory Commission, has primary regulatory jurisdiction.² That jurisdiction centers around wholesale rate setting and siting issues if state efforts at interstate transmission siting are not complete within a year. Other federal agencies, such as the Bureau of Land Management and the U.S. Forest Service, have a role if transmission lines cross those federal lands. The Department of Energy plays a role in coordinating and reviewing projects.

Montana regulates transmission siting through the Montana Major Facility Siting Act, and that requires certain proposed transmission projects to go through a review before construction. NorthWestern Energy and Montana-Dakota Utility distribution costs are regulated

¹*Understanding Energy in Montana: A Guide to Electricity, Natural Gas, Coal, and Petroleum Produced in Montana*, DEQ report to the Environmental Quality Council, October 2004.

²*The Electricity Law Handbook: A Montanan's Guide to Understanding Electricity Law*, Environmental Quality Council, 2004.

by the Montana Public Service Commission. Distribution costs of electric cooperatives are set by the governing boards of individual co-ops.

While NorthWestern Energy, WAPA, and BPA continue to build, rebuild, and upgrade transmission projects, publicly traded private companies also are entering the mix. Companies are considering constructing new independent, nonutility transmission lines in Montana. When these "merchant lines" are built, the company building the line does not generate its own electricity but sells contracts or rights to transport electricity on the lines. Utilities that own transmission lines also can propose projects in response to requests for new services from power marketers and independent generation developers. A mix of these "merchant lines," federal projects, and utility-driven efforts are underway throughout Montana.

Projects Proposed

Montana Alberta Tie Ltd.

Calgary-based Montana Alberta Tie Ltd. is proposing a 203-mile-long transmission line that ties into the Canadian grid at Lethbridge, Alberta, and the U.S. grid at Great Falls. (Figure 2) Three wind power developers have signed up to use the line, and the overhead line could bring 600 megawatts of wind online.

A joint review of the project is being completed by the Department of Environmental Quality and the Department of Energy. The project will require permitting from the U.S., Canada, Alberta, and Montana.

The DEQ has completed a draft EIS, which was put out for public comment. To date, the DEQ continues to analyze the comments it received. According to the DEQ, much of the comments centered around the diagonally routed line interfering with farming practices; locating the line on section lines or along field boundaries and roads to reduce impacts to farming; use of a single pole design rather than the proposed H-frame design to reduce impacts; project need; use of eminent domain for a Canadian- owned line; and the cumulative impacts of the wind farms potentially associated with the line.

Montana is cooperating with the federal government through the review, and the review must adhere to the more stringent federal requirements for cumulative impacts. The DOE recently decided to complete its own Environmental Impact Statement, which means additional scoping, or public comment. Energy regulators in Alberta also have postponed a planned formal hearing on the project until October.

The line and associated wind farms require about \$1 billion in capital investment, according to the project's developers. Developers hope to see permitting complete by the end of the year and construction underway soon after.

Mountain States Transmission Intertie

NorthWestern Energy intends to build and operate a new 350- to 390-mile, 500kV line between southwestern Montana and southeastern Idaho. The line will relieve congestion on the existing line, which was identified as a problem in a 2006 study conducted by the Department of Energy and in an earlier Rocky Mountain Area Transmission Study. It also will assist in meeting the growing demand for electricity in the region and strengthen the integrated network, according to NorthWestern.

The line will start at a substation near Townsend or Garrison. It would interconnect with the two existing 500 kV lines between Garrison and Colstrip. (Figure 3)

NorthWestern continues to review potential routes. The company will apply for a certificate under the Montana Major Facility Siting Act, and the DEQ, along with the appropriate federal agencies, will complete a full environmental review.

The project must comply with the National Environmental Policy Act and the Montana Environmental Policy Act. The state will be the lead agency in completing a joint federal/state environmental review and completing an Environmental Impact Statement together with the Bureau of Land Management and U.S. Forest Service. Idaho agencies also will be invited to participate in the planning.

Planning and permitting is expected to take until 2010. NorthWestern anticipates the \$800 million project could be finished by 2013.

Northern Lights

TransCanada's Northern Lights Transmission Co. intends to build a 1,100-mile, 500 kV transmission line from Townsend to Idaho to Nevada and on to the Southwest. The line could be capable of moving as much as 3,500 megawatts of power.³

Governor Brian Schweitzer has signed a Memorandum of Understanding with the governors of Idaho and Nevada to coordinate siting and permitting for the project.

The system would use HVDC technology, which assists in low-cost delivery of power over long distances. It also uses smaller transmission structures and a narrower right-of-way than comparable AC transmission.

The company has not yet applied to the DEQ for permitting. The project could cost an estimated \$1.5 billion.

WAPA Havre to Rainbow Upgrade

The Western Area Power Administration plans to rebuild its Havre to Rainbow Dam 161 kV transmission line between the Havre substation and the Rainbow Great Falls substation.

The line was built in 1934 as a 154 kV line and operated for many years as a 161 kV line. Some poles and cross arms are rotting.

About 72.4 miles of the 103 miles of transmission line would be rebuilt in the existing right-of-way, and 30.4 miles would require new right-of-way. About 31.3 miles of existing right-of-way would be abandoned.

The line would be upgraded to 230kV, and conductors and other structures would be replaced. The right-of-way would be widened to 125 feet. Transformers in the Rainbow substation also could be relocated. The line would continue to operate at its existing voltage until there is a demand for the increase. The upgrade would be done internally over the next 10 years.

The project has gone through federal permitting and a Record of Decision is expected. The DEQ is completing its determination of substantive compliance with the Major Facility Siting Act.

³ Montana Gov. Brian Schweitzer, comments before the U.S. Senate Committee on Finance, February 2007.

BPA Libby to Troy Upgrade

The Bonneville Power Administration has proposed a rebuild of a 17-mile stretch of its 115-kV line that runs between Libby and Bonners Ferry. The Libby (Flathead Electric Cooperative's substation) to Troy section of the line is in declining condition, with many of the wood poles in need of immediate replacement.

The rebuild would be in BPA's existing right-of-way with three potential reroutes. The reroutes would avoid residences in the Libby area, bypass landowners in the Big Horn Terrace subdivision, and relocate a Kootenai River crossing to avoid an access road crossing that has been washed out at China Creek.

With grizzly bears, bull trout, bald eagles, and wolves in the area (species all protected under the Endangered Species Act), the project has taken longer than expected to work through the federal review process.

The line is currently being jointly reviewed by the DEQ, Forest Service, and BPA. A draft EIS is expected to be released in the near future for public comment.

Increases from Montana to the Northwest

BPA, NorthWestern Energy, and Avista are conducting detailed engineering studies to confirm a transmission plan to integrate about 1,000 megawatts of new energy to be transferred from Montana to the Northwest. Those detailed studies are nearly complete and could outline a plan of service to potentially build a transmission line.

Completion of the studies enables the transmission owners to offer agreements that allow environmental work and preliminary design elements to proceed. While the full capability of the line may not need to be subscribed to up-front, anchor tenants would be needed to provide sufficient revenues to enable such a project to move forward.

Energy Legislation

House Bill 3 of the May 2007 Special Session, the "Jobs and Energy Development Incentives Act" provides tax incentives for development and transmission of clean and renewable energy. It reduces the permanent property tax rate from 12 percent to 3 percent of market value for new investments in transmission lines that are constructed after June 2007 and that move "clean" power, such as wind, new hydro, biomass, natural gas combined cycle, and integrated gas combined cycle power with carbon sequestration.

New DC converter stations that direct power to two different regional power grids are taxed at 2.25 percent of market value, as opposed to 6 percent.

House Bill 2 of the May 2007 Special Session included \$660,000 in one-time general fund money for an Energy Infrastructure Promotion and Development program. The money is allocated to the Department of Commerce, Community Development Division. Department staff is advertising for 3.75 positions in this fiscal year and four in 2009. The program will be designated its own division. The division is expected to have a "high profile" role in promoting the development of energy resources in Montana.

Additional Efforts

The BPA and the Northwest Power and Conservation Council released a draft of the Northwest Wind Integration Action Plan in March 2007. Representatives of the region's utility, regulatory, consumer, and environmental organizations worked together on the report. The Montana Public Service Commission and other Montana representatives participated.

The initial report finds that there is no technical barrier to implementing 6,000 megawatts of wind in the region, and the report recommends steps utilities can take to cut integration costs and make investments in transmission.⁴ However, concerns have been raised about maintaining system reliability while managing the natural variability and uncertainty of wind combined with the natural variability and uncertainty of loads. NorthWestern, for example, has stressed the importance of ancillary services to back up the hour-to-hour variations in wind generation.

In February 2007 the Federal Energy Regulatory Commission issued Order 890, which reforms aspects of the open access transmission tariff. The order mandates that transmission providers implement a coordinated, transparent, and participatory transmission planning process. Each transmission provider was required to develop a proposal describing a transmission planning process that complies with the order.

Order 890 is geared at promoting reliability, sending accurate market signals, and encouraging the development of energy infrastructure.⁵

Congress continues to work through an energy package, H.R. 6. In late June the Senate passed an energy legislation package. The legislation awaits action by the House, and the time of this paper's production, the status of a tax package, which includes incentives for new transmission lines that encourage wind and other renewable energy efforts, is unclear.

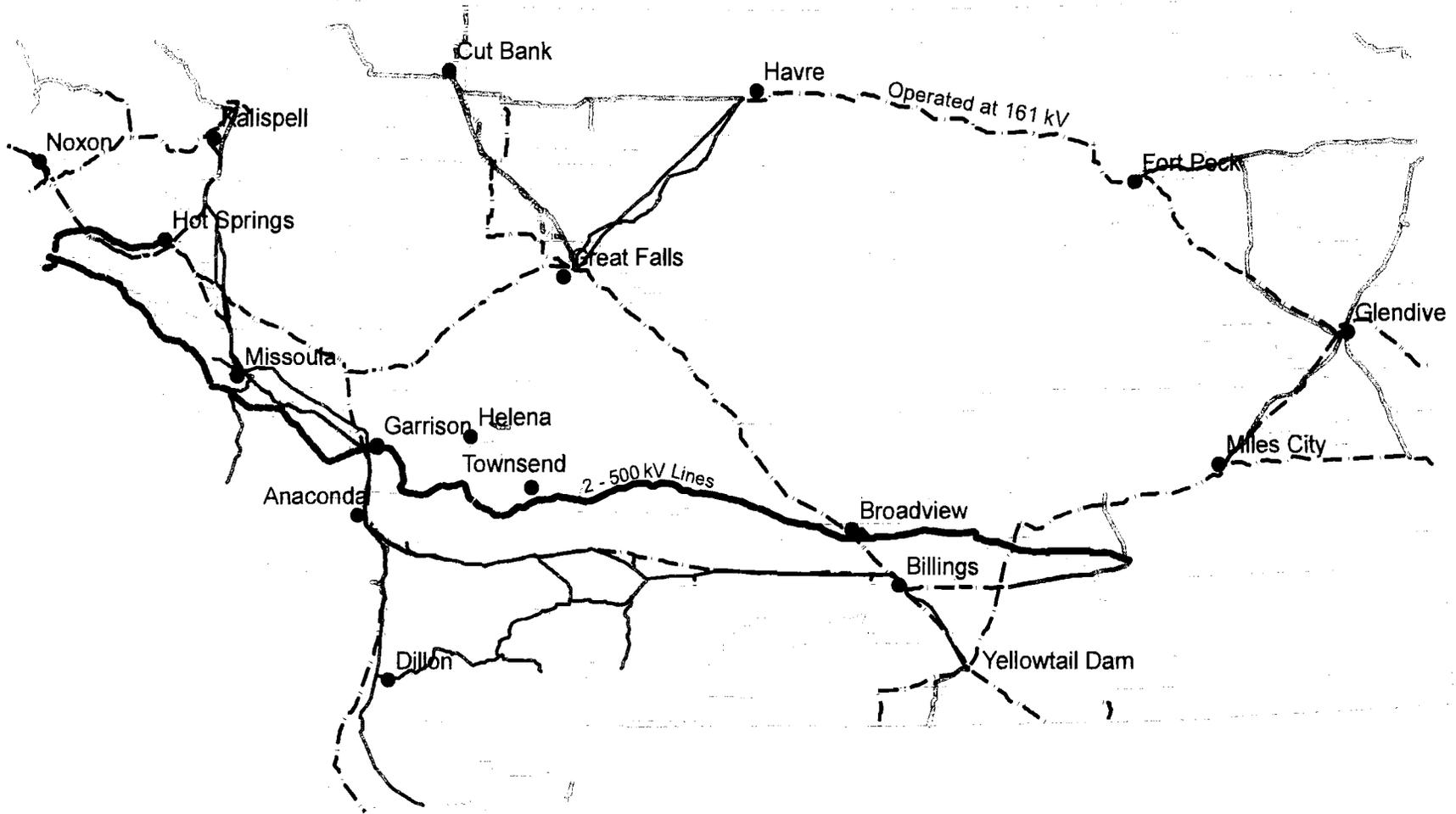
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⁴*Northwest Wind Integration Action Plan*, prepublication version, March 2007.

⁵Federal Energy Regulatory Commission, Commissioner Philip Moeller, February 15, 2007.

Figure 1

Transmission Lines of Montana



Legend

- 500 kV
- - - - 230 kV
- 161 kV
- 115 kV
- 100 kV
- - - - Proposed Montana Alberta Tie 230 kV Line

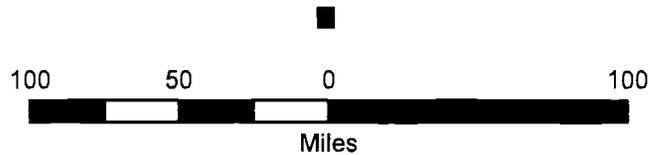
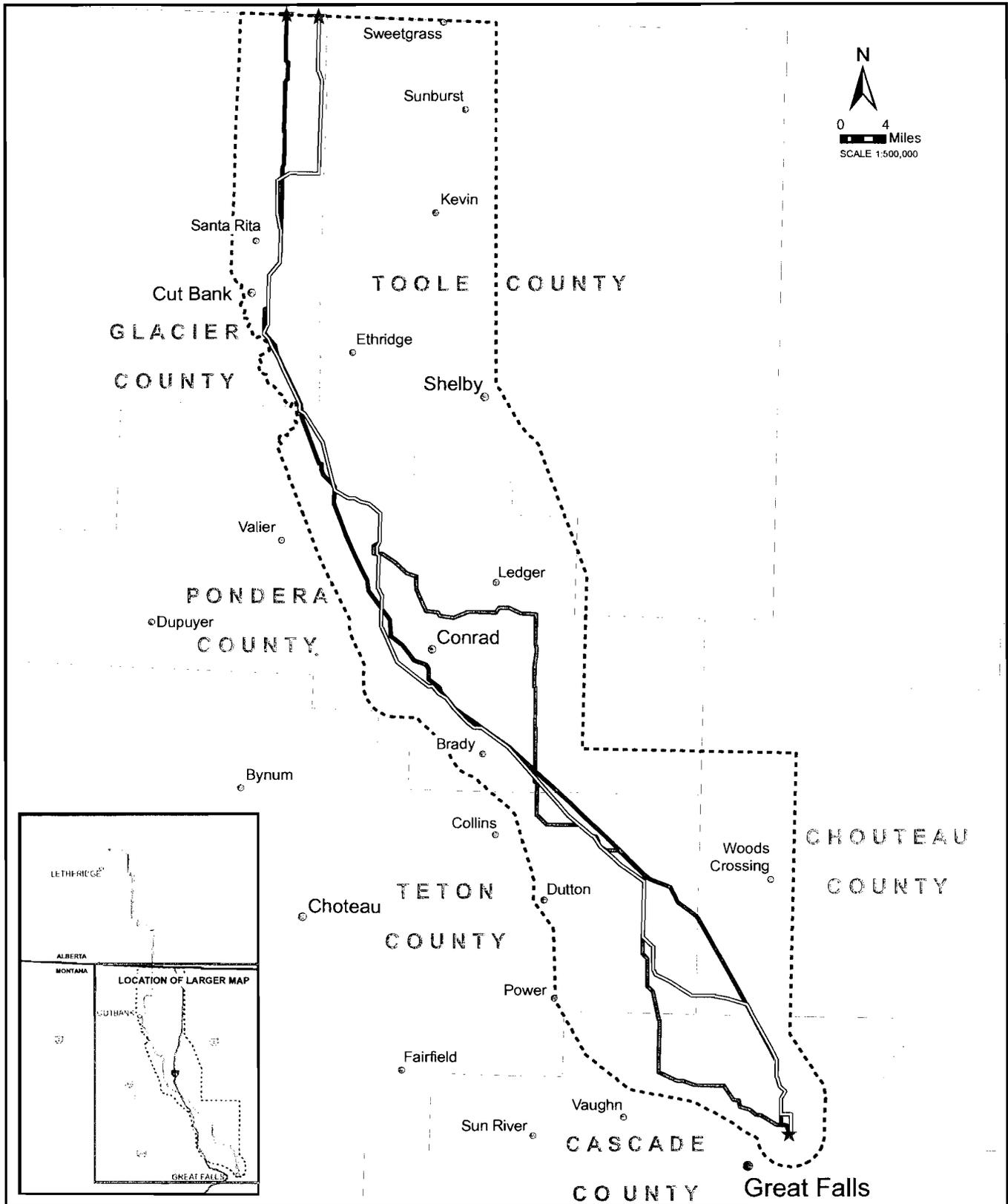


Figure 2



**FIGURE 1.1-1
PROJECT STUDY AREA**

- LEGEND**
- ALT2 - ALIGNMENT
 - ALT3 - ALIGNMENT
 - ALT4 - ALIGNMENT
 - CITIES AND TOWNS
 - ★ ALIGNMENT END AND EXIT POINTS
 - STUDY AREA BOUNDARY

NOTE:
ALT = ALTERNATIVE

Figure 3

