MSTI QUESTIONS AND ANSWERS

Economic and Policy Issues Related to the Proposed Mountain States Transmission Intertie (MSTI)

MSTI REVIEW PROJECT

MSTI
Questions and Answers

Economic and Policy Issues Related to the Proposed Mountain States Transmission Intertie (MSTI)

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ABOUT THE MSTI REVIEW PROJECT

The MSTI Review Project is a joint effort between three Montana counties and five non-governmental organizations along the Montana-Idaho border to conduct an independent analysis of the Mountain States Transmission Intertie (MSTI).

For more information, please visit the project web site: www.mstireviewproject.org

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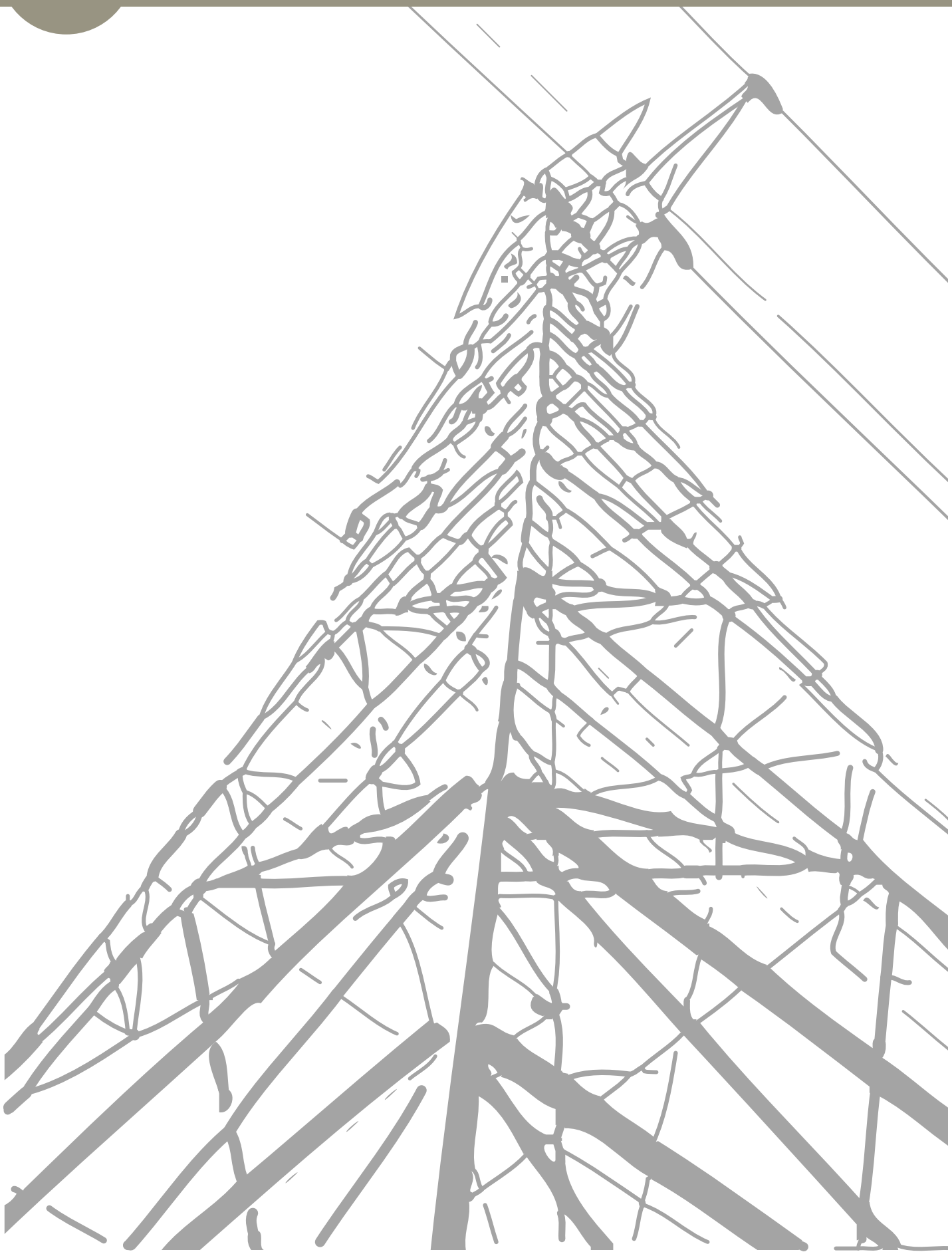


I. Introduction and Background to the May 2012 Version

In the fall of 2010, Madison County, Montana identified a need for reliable information about the proposed Mountain States Transmission Intertie (MSTI) project. MSTI refers to a 500-kilovolt (kV) alternating current (AC) electrical transmission line proposed by NorthWestern Energy. In order to meet its information needs, the county assembled a team of regional non-profit organizations that could help respond to concerns about route siting as well as economic and policy questions. The project was subsequently expanded to include other counties in Montana and Idaho and goes by the name MSTI Review Project. Background on the project can be found online: www.mstireviewproject.org

The purpose of this document is to help clarify points of confusion identified by county commissioners about MSTI in a question and answer format. The focus is on concise answers, supported by references to credible sources of detailed information. It was first released in May 2011 and updated in October 2011. This report was updated again in May 2012 to reflect new information and policy developments.

Topics addressed in this document include:

1. What Type of Energy Will MSTI Carry?
2. Rate Impacts: Who Pays for a $1 Billion Transmission Line?
3. What is the Role of Mill Creek in the MSTI Siting Process?

Two separate reports by Headwaters Economics written under contract to the MSTI Review Project include (1) a published literature on property value impacts from transmission lines and (2) a guide to fiscal revenue (tax benefits) associated with the MSTI project in Montana and Idaho. These reports are available online by visiting: www.mstireviewproject.org/economic-analysis.

To produce this report, Headwaters Economics has consulted key policy documents, published literature, and energy industry experts. Information peer review was solicited by technical experts.

In order to provide a further round of updated information to local elected officials, the MSTI Review Group will host a public policy panel to discuss questions addressed in this report in the fall of 2012 in advance of the release of the Draft EIS, expected in the fall of 2012. The panel will feature experts in transmission planning and cost allocation invited by the MSTI Review Group to discuss recent developments in key policy areas. Please visit the MSTI Review Project web site for more information.

II. Summary Findings

A brief summary of answers to the questions guiding this report is offered on this and the following page. The reader is likely to notice that the summary answers suggest some uncertainties associated with each of the issues being considered. For a fuller discussion of the range of ways to approach and consider these questions, please see the full document.

What Type of Energy Will MSTI Carry?

NorthWestern Energy's plans to market transmission on MSTI to wind generation facilities reflect the profile of energy markets at the time MSTI was officially proposed (2008). While there is more uncertainty facing the wind industry today than at that time, there is still strong demand for new, large-scale generation from renewable resources. To meet existing state quotas, the Western Electricity Coordinating Council estimates that the U.S. West will need to double the volume of electricity generated from renewable resources in the region over the course of just ten years. Wind developers banking on the opportunity for Montana's wind resources to play a role in that build out have been and remain the majority (currently about 90%) of the requests for interconnection with NorthWestern Energy's transmission network.

In January 2012, NorthWestern Energy announced a Memorandum of Understanding with the Bonneville Power Authority (BPA). The Memorandum of Understanding lays out the terms for exploring the possibility that MSTI could play a role in helping the BPA meet transmission service requirements for its "Southeast Idaho Service Area" which includes parts of western Wyoming and southern Montana. This could represent demand for up to 550 MW of service. The BPA is also exploring options to utilize the Boardman to Hemingway project for its Southeast Idaho service demand.

If BPA were to become a partner or "anchor tenant" on the MSTI line, this would be a major step forward in securing a customer base for the project. The generation resources would reflect a mix of BPA assets, primarily but not only hydroelectric facilities. The results of the economic and engineering studies on the feasibility of this option for the BPA are expected in August 2012.

While the physical realities of the electric grid mean that all types of electrons will travel on MSTI regardless of generation source, MSTI's eventual construction depends on the market for new generation resources. For a variety of reasons, expansion of coal-burning generation facilities is highly unlikely. Nationwide, many utilities are looking to natural gas as a future generation resource, but in Montana, wind remains the most likely new generation resource in the near-term.

Rate Impacts: Who Pays for a $1 Billion Transmission Line?

So long as MSTI's product and marketing methods remain consistent with NorthWestern Energy's plan, the project should not significantly increase the transmission portion of retail electricity rates in Montana. NorthWestern Energy utility proposes to recover the costs of building the MSTI line through a "participant funding" model. This means that all of the costs of constructing the line would be rolled into the price of transmission access on the line and not into Montana rates.

Ongoing federal policy efforts, including FERC's recently issued Order 1000, are focused on establishing processes for determining fair and relevant strategies to address cost allocation for transmission expansion. At this time, it is too early to predict the full implications for remote regions (like Montana and Wyoming) with regards to the costs of infrastructure designed to export electricity to distant markets.

The policies and strategies for complying with the order may differ significantly from other parts of the country where Regional Transmission Organizations predominate. In the West, FERC Order 1000 compliance is being undertaken by subregional transmission groups. While Order 1000 does introduce the possibility of regional cost allocation for transmission developments based on a beneficiary pays principle, it does not impose regional cost allocation on all projects and provides the option for developers to use participant funding as a cost recovery approach.

What is the Role of Mill Creek in the MSTI Siting Process?

Mill Creek describes an area south of Anaconda, Montana that features a cluster of utility infrastructure. NorthWestern Energy's proposed route for MSTI, submitted with its original permit application to the Montana Department of Environmental Quality, ran west from the Townsend substation through Jefferson County, past Butte, into Anaconda in order to take advantage of existing transmission infrastructure around Mill Creek.

The cooperating agencies drafting the 2010 Draft EIS observed that integration with the Mill Creek system was not technically critical to the construction of MSTI and thus opted for a shorter route with fewer cumulative impacts—the route via western Madison County along the Jefferson and Beaverhead Rivers. However, NorthWestern Energy has repeatedly observed that there are significant benefits to incorporating Mill Creek into the route for MSTI, particularly for the benefit of long-range transmission expansion planning. A second look at Mill Creek's relationship to route alternatives in the revised EIS process is likely.

II. What Type of Energy Will MSTI Carry?

NorthWestern Energy is proposing MSTI as a solution to a need for capacity to export electricity out of Montana.[1] Because firm transmission rights on existing transmission lines on the route from Montana south to Idaho are fully subscribed, MSTI would open a path to market for energy resources that cannot be developed until new transmission capacity is available. In this way, MSTI could facilitate the development of new generation facilities in Montana.

The question of what type of energy MSTI would carry—and by extension, what kinds of new generation facilities MSTI could help encourage—has prompted public debate about the project's merits. Some opponents of the project claim that MSTI's construction could support the expansion of coal-fired generation facilities in the state. NorthWestern Energy's application observes that Montana is rich in a variety of energy sources that could potentially be developed to export electricity, including fossil fuels as well as renewable resources. However, in its application as well as in marketing materials, NorthWestern Energy has underscored the leading role for renewable energy generators in procuring MSTI's services.[2]

Predicting the specific composition of generation sources for power ultimately carried on MSTI is an act of speculation that has become increasingly challenging over the course of the project's history as western energy markets undergo continued change. The line can only be constructed with adequate demand from transmission shippers. Because the line is required by federal law to provide open access to its services, the energy traveling on the line will ultimately reflect market conditions when the line goes into service.

Who Are the Customers for Electricity Traveling on MSTI?

Transmission customers on MSTI will be generators and other electricity distributors seeking to move electricity out of Montana to points elsewhere in the Western Interconnect. MSTI is proposed to run from a new substation just east of Townsend, Montana to the Midpoint Substation in Jerome, Idaho near Twin Falls. From Midpoint, electricity can flow west into Oregon and Washington, and California, and also south to Utah, Nevada, Arizona, and even east to Wyoming, Colorado and New Mexico. There are several proposed interstate lines that would be especially helpful in linking MSTI to other parts of the Western Interconnect, namely Idaho Power's Boardman to Hemingway transmission project from southwestern Idaho to the transmission hub at the Oregon-Washington border, PacifiCorp's Gateway West transmission project which runs east-west through Wyoming, Idaho, Oregon with spur lines down to California and Utah hubs), and the Northern Southwest Intertie Project (SWIP North) designed to link Midpoint to southern Nevada.[3] All of these projects are in the planning or permitting stages.[4]

In January 2012, NorthWestern Energy announced that it had entered into a Memorandum of Understanding with the Bonneville Power Authority. The Memorandum of Understanding lays out the terms for exploring the possibility that MSTI could play a role in helping the BPA meet

transmission service requirements for its "Southeast Idaho Service Area" which includes parts of western Wyoming and southern Montana. In this area, BPA has wholesale service obligations but does not own transmission property (with some small exceptions). To date, the service has been provided through an agreement with Pacificorp.[5] BPA's obligations in Southeast Idaho Service Area could represent demand for up to 550 MW of service. BPA is also exploring options to utilize the Boardman to Hemingway project for its Southeast Idaho service demand.

If BPA were to become an investing partner or an "anchor tenant" in the MSTI project, this would be a major step forward in securing a customer base for the project. The generation moved by BPA on MSTI would reflect BPA's mix of generation assets, which are primarily but not only hydroelectric facilities. The results of the economic and engineering studies on the feasibility of MSTI as an option for the BPA are expected in August 2012.

It has been difficult for the public to understand the potential market demand for transmission on MSTI due to uncertainty about the company's Open Season process. The Open Season process invites eligible customers to commit to contracts for capacity on the line under terms proposed by NorthWestern Energy. The Open Season period has been extended and results have not been made public to date, suggesting there may be low response. This uncertainty could be an indication that the specific terms offered by NorthWestern Energy are not commercially attractive, but it is a mistake to interpret them as a lack of demand for transmission access out of Montana.

How to Predict Demand for Service

Federal regulation of electric transmission has sought to create fairness and balance in the wake of deregulation of the utility industry. With regard to the construction and operation of regional transmission facilities, federal regulations stipulate that, as a regional transmission provider, NorthWestern Energy is required to provide transmission service to those who request it.

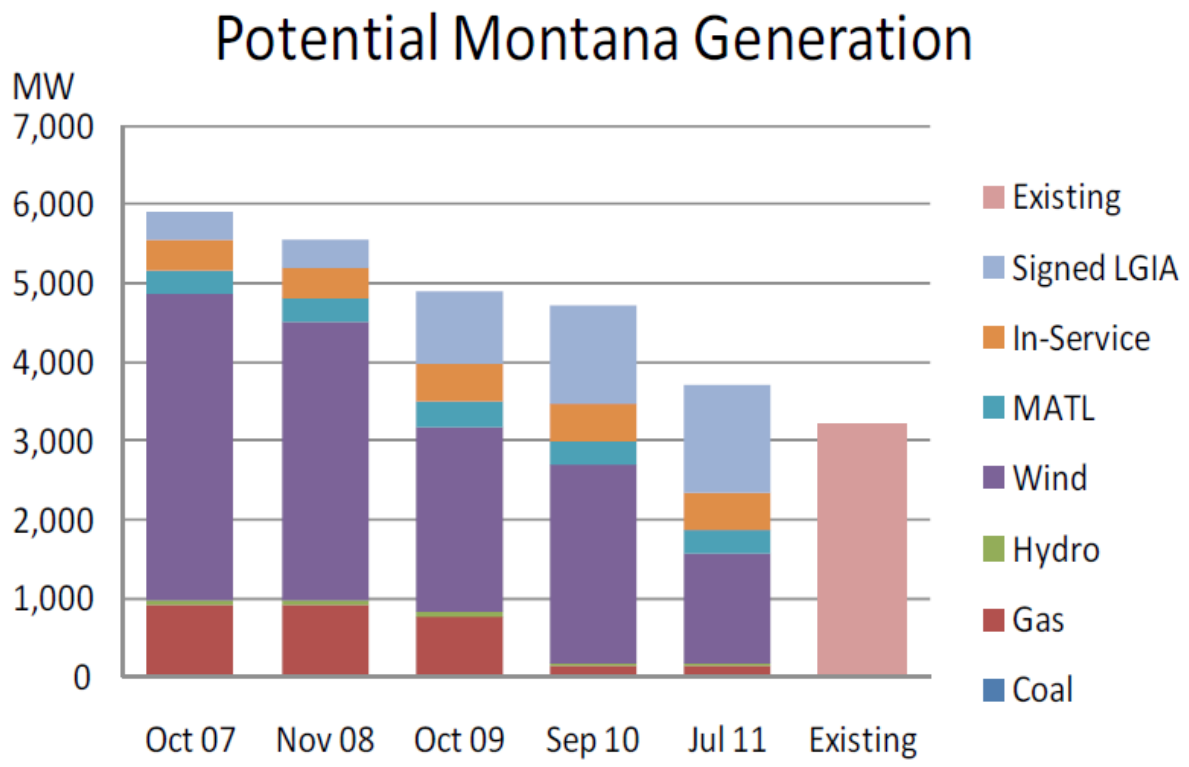
What this means is that NorthWestern Energy is prohibited from treating wind or other renewable generators preferentially as customers on MSTI. This is discussed in more detail in the following section. However, the majority of the standing requests for interconnection to the transmission grid operated by NorthWestern Energy are related to renewable generation.

Transmission Service Requests (TSRs) are the formal mechanism by which generators indicate a future need for transmission capacity.[6] The following figures are drawn from the TSRs filed in NorthWestern Energy's Interconnection queue and the Bonneville Power Administration (BPA) transmission queues. These are the two active TSR queues that cover interconnection with facilities leaving Montana and are one proxy for estimating demand on the line.[7]

- **N.W.E. Queue:** As of April 2012, 1,079 MW of proposed generation remains active in NorthWestern Energy's interconnection queue. Of this total, 90 percent is associated with new wind, 2 percent is associated with coal, 6.9 percent with natural gas, and 1.1 percent with hydro. These statistics do not include 855 MW from projects that have signed interconnection agreements with NorthWestern Energy, but are not yet in service.[8]
- **BPA Queue:** In the 2010 Network Open Season, 1,074 MW of transmission capacity was requested and financially committed over BPA's Montana-based facilities. Of that total, 980 MW were associated with wind energy and the remainder is not associated with any particular resource and will likely come from a mix of existing resources to support specific marketing and trading endeavors.[9]

The existing interconnection queue points strongly to wind developers as the most likely candidates to develop new generation resources in Montana and contract for transmission capacity on MSTI. That said, the volume of demand for transmission from wind developers has softened since NorthWestern Energy originally proposed the MSTI project. This is evident in the following figure which charts the volume of demand and share by different generation resources by year. While some requests for service have been converted into preliminary agreements that begin a formal process for exploring technical and cost issues of potential solutions to the TSR (Large Generation Interconnection Agreements)— the growing share of light blue in each stack—other requests have been cancelled.

Figure 1. Interconnection Queue Transmission Service Requests by Year, 2007-2011



Source: NorthWestern Energy

The following discussion summarizes key market issues and related opportunities and challenges for electricity generated by Montana wind.

Opportunities and Challenges for Exporting Montana Wind Energy

MSTI's focus on the market for wind energy reflects broader market forces. Wind energy is a leading new energy resource being developed today, nationally and in the region.[10] Critical support for the expansion of wind generation comes in the form of state mandates, Renewable Portfolio Standards (RPS), specifying that some portion of the state's total electricity use comes from renewable energy sources.[11]

California, Oregon, Washington, Montana, Nevada, Colorado, Arizona, and New Mexico all have RPS's, and Utah has a "renewable and alternative energy goal." Taken together, these quotas create a strong demand for new renewable generation. The most recent projections from WECC looking forward show that to meet existing RPS requirements, the WECC Region will need to add 79,937 GWh of new renewable generation between 2011 and 2022. Such an addition would roughly double the amount of renewable capacity currently in place (65,539 GWh in 2010) over the course of just ten years.[12]

Wind has been the cornerstone resource in RPS compliance to date nationwide and in the west to date. A 2010 study by Lawrence Berkeley National Laboratory modeling potential procurement scenarios in the West identified wind as the largest source of renewable energy under a variety of scenarios.[13] WECC estimates that half of the RPS demand will be fulfilled by wind in 2022.[14]

Considerable debate exists about where states will acquire these renewable resources—namely how much of the renewable energy will come from in-state, including distributed generation, versus out-of-state generation facilities. Because of the economic benefits such as jobs and tax revenue associated with the construction of generation facilities, there is strong incentive for states to focus on native generation facilities. However, the ability of states to meet renewable energy quotas with in-state generation varies.[15]

Does California (And Do Other States) "Want" Montana Wind?

California's approach to procuring renewable energy attracts close attention because the volume of energy demand in California, coupled with its high (33 percent) RPS, makes it the largest state market for renewable energy in the West by a significant margin.[16] About 60 percent of the incremental growth in renewable resource generation in the WECC 2022 common case assumption responds to demand from California.[17]

California's implementation of its 33 percent RPS puts a strong priority on using in-state generation to meet renewable generation demand.[18] However, the final implementation rule issued in December of 2011 created some potential opportunities for expanding access for out-of-state renewables to the California RPS-driven market. The scope of those opportunities depends on a number of technical concerns that have yet to be fully resolved. At a minimum, Montana wind generators will be competing for the other 25 percent of the California market that is not restricted to in-state generation.

In the competition to provide cost-effective renewable energy to markets in the Pacific Northwest, Utah, and California, Montana wind has unique advantages and challenges, which are explored in the following discussion.

Are Remote Renewable Resources Cost Effective?

The costs of moving renewable energy generated in remote locations like Central Montana to load centers on the West Coast and distant urban locations such as the Wasatch Front are not insignificant. The cost of transmission presents a challenge to the export of remote renewable resources across resource rich states such as Montana, Wyoming, Colorado, and New Mexico, although the degree of the challenge has proven difficult to quantify.[19] Early models of implementation scenarios for California's 33 percent by 2020 statute, remote wind performed competitively in terms of price and technological reliability compared to other generation

options. However, the cost of solar photovoltaic equipment, a factor that helped wind's competitiveness in early models--has decreased significantly in recent years rendering these early results less reliable.

Another perspective is that a diversity of resource types and location provides significant efficiencies and cost savings particularly in the context of integrating a portfolio with a large share of variable resources such as wind.[20] Because wind blows intermittently, its availability needs to be "balanced" and "integrated" in order to respond to patterns of customer demand. The costs of balancing and integration are not insignificant but can be significantly reduced by accessing a diversity of resources and netting their collective variability, thereby creating a much less variable combined renewable energy supply. For example, an internal report by Gaelectric (a wind developer) suggests that Central Montana wind resources are complementary to other wind as well as hydro resources in the Pacific Northwest.[21]

Going forward, the competitiveness of wind against other renewable resources will be affected by technological advances that affect the cost of various technologies and the logistics of siting new generation and transmission facilities. Utilities that are working to comply with mandates for acquiring new generation from renewable resources will focus on "least cost, least risk" resources—price, but also feasibility of various types of facilities and associated transmission are key features in such cost and risk analyses.

As a competitor as an energy resource beyond in the market outside of RPS-compliance, wind faces significant challenges. Exposure to an on again/off again cycle of tax incentives is an immediate problem.[22] Record low prices currently make natural gas an attractive resource for utilities, although the rush to export natural gas products is one indicator of a risk of future price volatility with this resource.[23] Infrastructure shortcomings are another significant cost issue with natural gas.[24]

Will MSTI Encourage New Fossil Fuel-Burning Power Plants?

Because of the way the AC electric transmission system works (like water following the path of least resistance through a series of pipes), technically speaking, electrons from existing coal facilities at Colstrip will almost certainly flow over MSTI. Contractually speaking, however, it is highly unlikely that MSTI could facilitate the expansion of new coal base-load generation plants. Other types of generation resources, such as natural gas, are a possibility although they are not currently represented in requests for transmission service.

Given experience to date and the current economic and policy drivers, it is possible that whatever firm capacity is on offer (above and beyond what is claimed by the BPA, should that alliance to go forward) could be sold to wind generators, even though they do not always use it. It is standard practice in the western energy markets (save the California Independent System Operator[25]) for wind plants to buy transmission equal to their maximum output. This is because the financial institutions providing loans to developers prefer that the transmission is always there and available for when the wind starts to blow.

When the wind is not blowing, unused capacity on transmission lines may be resold as "short-term-firm" and "non-firm" transmission access. While other generators (coal, natural gas, or other facilities) could technically sell energy over this short-term transmission when it is available, non-firm and short-term transmission access would not be sufficient to finance a new base-load plant.

More importantly, the current policy environment poses major obstacles for coal generation going forward. Existing federal air quality regulations create cost challenges for retrofitting coal plants that have been amplified by low natural gas prices. Planning for the early retirement of two coal facilities, Boardman and Centralia, Oregon is in its final stages. Pacificorp recently announced that it is considering converting one unit in a coal-burning power plant in Kemmerer, Wyoming to natural gas for cost reasons.[26]

Energy-importing states including California, Oregon, and Washington all have carbon standards associated with any new long-term purchases of power from resources within or imported into state borders. These policies effectively prohibit any new purchases of energy from coal generators, requiring the emissions level to be equal to or less than a combined cycle natural gas combustion turbine.[27] In addition, in March of 2012 the Environmental Protection Administration proposed nationwide emissions standards (New Source Performance Standards) that set ceilings for carbon dioxide emissions for new fossil fuel electric plants. Coal plants would not be able to meet these standards with existing technologies in a cost-competitive manner.[28]

We have not encountered any public plans to develop base-load natural gas facilities in Montana. Natural gas generation represented about 7 percent of the total capacity requested in the NorthWestern Energy's Interconnection Queue in April 2012.

Conclusions

While the physical realities of the electric grid mean that all types of electrons will travel on MSTI—regardless of generation source, MSTI's eventual construction depends on the interest of new transmission customers, a group includes renewable generators and possibly the BPA. Demand for transmission service from wind generators has softened since MSTI was first proposed, but the requests that are still pending are dominated by wind.

Meeting existing policy mandates for new renewable generation over the next decade across the western interconnect represents a significant addition of new generation facilities, more than double what has been built to date. The competitiveness of Montana's wind resources in meeting that demand will be affected by technological advances affecting production costs of various types of resources, tax incentive policies, and the feasibility of building new facilities for generation and transmission in Montana and elsewhere in the West.

Mill Creek Substation, Anaconda, MT

IV. Rate Impacts: Who Pays for a $1B Transmission Line?

Another concern surfacing in public discussions about the MSTI line is whether MSTI could raise the price of retail electricity in Montana. The 2010 preliminary Draft Environmental Impact Statement included a Rate Impact Study, which concluded that there are several statutory and procedural barriers to NorthWestern Energy relaying the cost of constructing onto Montana companies. There have been important policy developments since the rate impact study was published, and it is likely that the Rate Impact Study will be updated as part of the ongoing EIS process.

In the meantime, this document summarizes the policy context in order to develop the basic framework that suggests why Montana ratepayers are well-insulated from the risk of NorthWestern Energy building the costs of a large interstate export transmission line into electricity rates. References to key background documents, including Federal Energy Regulatory Commission (FERC) Orders, are provided.[29]

Retail Electricity Rates and Wholesale Transmission Costs

The Montana Public Service Commission (PSC) sets utility rates according to a "cost of service" model. In simple terms, NorthWestern Energy puts a case in front of the PSC saying this is how much it costs us to do business (defines its "rate base") and the PSC adjusts it. After much legal back and forth, the utility is authorized to charge rates according to the cost of service plus a rate of return on its investments as permitted by the PSC. As a legacy of deregulation, in Montana cost-of-service ratemaking considers generation, transmission, and distribution separately; retail customers pay separate fees for supply, transmission, and distribution rather than a bundled rate.

Transmission is priced according to cost-of-service as well and rates are regulated either at the state or the federal level, depending on the type of transmission product. The type of product offered on MSTI is likely to be "Point to Point" Transmission Service—the product is space on a line from point A to point B—which puts the pricing for the line under FERC's jurisdiction. A key element in FERC jurisdiction is the Open Access Transmission Tariff (OATT), which was established in 1996 (FERC Order No. 888[30]) as an element of utility deregulation and reform. By establishing "open access non-discriminatory transmission tariffs that contain minimum terms and conditions of non-discriminatory service" the OATT model is intended to benefit all ratepayers by encouraging competition in the electricity and transmission markets.[31] The framework and details of the OATT model were reformed in 2007 (FERC Order No. 890[32]) and again in 2011 (Order No. 1000[33]).

The OATT is important to MSTI because in principle, it limits the ability for the seller of transmission service (NorthWestern Energy) to treat transmission customers differently, for example, to charge negotiated rates. The advantage of negotiated rates in a situation like MSTI is that that NorthWestern Energy could help secure cost recovery for the project by providing preferential rates to those purchasing long-term contracts.

How Will NorthWestern Energy Recover the Costs of Constructing MSTI?

Originally NorthWestern Energy requested exemption to the OATT requirements from FERC in the form of authorization of "negotiated rate authority" and Merchant Transmission Facility status. With "merchant line status" NorthWestern Energy would have established a wholly-owned subsidiary for MSTI that could operate outside of NorthWestern Energy OATT requirements. Negotiated rate authority would have allowed NWE to recoup costs of the line via negotiated rates with subscribers. What NorthWestern Energy was apparently seeking through the negotiated rate authority was maximum flexibility in setting up rates and contracts to attract the critical mass of transmission customers necessary to move forward financially. The merchant line approach benefits Montana rate payers by isolating them from the direct costs of building MSTI.

FERC denied NorthWestern and its MSTI affiliate Negotiated Rate Authority in June 2009. FERC noted that under a negotiated rate model, there was a risk that NorthWestern Energy would have an incentive to "withhold capacity and/or to delay the timely expansion of facilities" in order to improve the competitive position of MSTI.[34] However, FERC also suggested that NorthWestern Energy could use its OATT to achieve the benefits of a merchant model type approach, such as insulating native load customers from the costs and risks associated with an export-only project, concluding "…NorthWestern has ample opportunity to accomplish many of its objectives and construct a project comparable to the MSTI proposal on a cost-of-service basis by requesting appropriate tariff waivers."[35] NorthWestern Energy opted to move forward under the OATT model, and has indicated it will request waivers in order to attempt to mimic the merchant line scenario which limits cost recovery to the end users of the line. (*i.e.*, NorthWestern Energy will pay for the MSTI expansion by charging MSTI subscribers the full costs of the project.) The company has indicated that it will request waivers and deviations to the OATT to facilitate risk-reduction, such as credit requirements and a preference for long-term transmission service. These terms and conditions require approval from FERC and would be a part of MSTI's open season process (described above).

It is worth noting that FERC Order 888 and 890 direct transmission providers to respond to Transmission Service Requests. This means that whether or not the NorthWestern Energy pursues the plan to build the MSTI line, the company has to address demands for service. If upgrades are necessary to accommodate service demands, the transmission customer is expected to pay the cost of the upgrade.

What Has Changed Since the Rate Impact Study?

In the summer of 2010, FERC issued a Notice of Proposed Rulemaking that would update Order No. 890 with the general goal of refining transmission planning and cost allocation processes in favor of greater transparency and clarity for the benefit of all stakeholders. The underlying goal, as with Order No. 890, is to facilitate the growth of transmission capacity, especially to "locationally constrained" resources, such as Montana's renewable energy resources. The resulting order, Order 1000, was released July 21, 2011.

What is the Rationale for Reforming FERC's Transmission Planning and Pricing Model?

Order No. 890 created some flexibility for stakeholders to "determine [a cost allocation] method that would be appropriate given the needs of the region."[36] The resulting proposals, particularly outside ISO/RTO footprints, have tended to focus on "participant funding" approach to cost allocation. These proposals have worked in certain areas, but there is also apparent consensus that the system does not do enough to clear the hurdles that uncertainty over cost allocation poses for the construction of new transmission facilities, especially interstate transmission facilities involving more than one transmission provider.[37]

A more comprehensive statement of need for reform is found within the Notice:

> [T]here are few rate structures in place today that provide both for analysis of the beneficiaries of a transmission facility that is proposed to be located within a transmission planning region that is outside of an RTO or ISO, or in more than one transmission planning region, and for corresponding allocation and recovery of the facility's costs. The lack of such rate structures creates significant risk for transmission developers that they will have no identified group of customers from which to recover the cost of their investment. In addition, cost allocation within RTO or ISO regions, particularly those that encompass several states, is often contentious and prone to litigation because it is difficult to reach an allocation of costs that is perceived as fair. Some comments filed in response to the October 2009 Notice present these types of concerns and state the resultant uncertainty regarding cost allocation remains an impediment to development of needed transmission facilities.[38]

Among other requirements regarding regional planning, FERC Order 1000 requires transmission providers to develop cost allocation methodologies for different types of transmission projects, within and in between their respective transmission systems and transmission planning regions. The order provides clear principles and guidelines related to cost allocation, but assigns many of the details to subregional groups. The details of each region's cost allocation method will be worked on over the next 12 to 18 months and then submitted to FERC for approval. In the Western region, which does not have a formal regional entity Regional Transmission Organization (RTO), Order 1000 compliance has different implications than in other parts of the country where RTOs and Independent System Operators (ISOs) prevail. With respect to MSTI, this means that NorthWestern Energy will be working with the Northern Tier Transmission Group (NTTG) and its stakeholders on compliance with Order 1000.

One of the cost allocation principles embedded in Order 1000 is the concept that "beneficiaries pay;" those entities that benefit from a new transmission line should pay for the costs proportionately. As noted, for a project like MSTI, which FERC has recognized as primarily for export, it is anticipated that the beneficiaries of the line will primarily be the transmission customers (e.g. wind generators) and the ultimate consumers of the electricity. Another principle found in Order 1000 is that cost allocation methodologies must explicitly account for the benefits associated with meeting established state and federal policies. These policy concerns may include the increased reliability of the transmission system, meeting clean air standards, meeting renewable portfolio standards, and decreasing carbon emissions. The details of how these policy benefits will factor into cost allocation methods will be established over the coming 12 to 18 months. As guidance, Order 1000 clearly states that costs must be

allocated "roughly commensurate" with benefits and those entities that receive no benefits from a specific transmission line should not bear any costs.

A couple of important points to remember about FERC Order 1000 is that its final meanings will be determined over the next several years in the context of compliance filings, rehearings[39], and other administrative and legal processes. In addition, the fact that regions are required to develop cost allocation strategies does not impose them on all projects. Participant funding, as proposed by NorthWestern Energy for MSTI, remains the option of the project developer.

Conclusions

Although FERC denied NorthWestern Energy the opportunity to market MSTI as a merchant project, with attendant flexibility in negotiating rates with transmission customers, the utility nonetheless proposes to recover the costs of building the MSTI line through a comparable "participant funding" model. So long as MSTI's product and marketing methods remain consistent with NorthWestern Energy's plan, the project should not affect the transmission portion of retail electricity rates in Montana.

Ongoing federal policy efforts, including FERC's recently issued Order 1000, include a focus on establishing processes for determining fair and relevant cost allocation principles for transmission development. Although some view Order 1000 as a step in the direction of obliging remote regions to bear the costs of infrastructure designed to export electricity to distant markets, this is not the intent of the order. In addition, one clear direction of the order is to ensure that the cost to individual "beneficiaries" is commensurate with benefits received.

V. What Is The Role of Mill Creek in the MSTI Siting Process?

Significant surprise and public controversy accompanied the preferred alternative for the MSTI route that emerged in the 2010 preliminary, but unofficial Draft EIS. Rather than travelling west from Townsend—following the course of NorthWestern Energy's proposed route, the route turned south into the Jefferson Valley just before Pipestone. The reason for this geographic departure was the decision by the cooperating agencies involved in the EIS process to exclude Mill Creek and associated existing transmission infrastructure, located just east of Anaconda in Deer Lodge County, as a necessity in the project design.

Many observers have been confused by the discrepancy between NorthWestern Energy's preference to route via Mill Creek and the 2010 Preliminary Draft EIS preferred alternative. Ultimately, NorthWestern Energy's rationale for locating near Mill Creek was that the Mill Creek route offered them more flexibility in developing the project and also that it might be integrated later into other parts of the Montana electric grid. When deliberating about the preliminary Draft EIS, the cooperating agencies did not interpret these reasons as being critical to the project, which opened up the possibility of selecting a shorter route. With the Preliminary Draft EIS preferred alternative now officially withdrawn, it is possible that the EIS process may revisit the role of Mill Creek.

This section focuses on clarifying confusion about the opportunity that Mill Creek provides to NorthWestern Energy, with a focus on understanding the overall transmission expansion framework.

What is Mill Creek?

Mill Creek is an existing transmission substation on NorthWestern's electric grid. Mill Creek is an important electrical hub of the existing transmission network in western Montana. Its importance dates to the early days of electricity in Montana and the need to provide power to the Butte copper mines and the Anaconda smelter. As the electrical 'heart' of the transmission network in southwestern Montana today, Mill Creek is a point of integration for a significant portion of the existing statewide transmission system. When referring to Mill Creek, it is important not to confuse the transmission infrastructure in that location with the newly-built gas-fired generation facility there.[40]

NorthWestern Energy's stated goal is to site the MSTI project to the Mill Creek area for future expansion and strategic growth opportunities and to avoid future cumulative impacts. The company has suggested that there are two reasons to focus on siting the MSTI project to Mill Creek:

1. Siting to Mill Creek is consistent with regional long term transmission plans for expansion of the region's bulk electric system serving the state and the interconnected utility system
2. Siting to Mill Creek avoids further cumulative impacts as the future need to expand the bulk electric system develops

Montana's Transmission Future

Montana is part of the WECC regional interconnected transmission system that encompasses the western United States and parts of Canada and Mexico. Montana's electric system is an important element of the WECC system today that provides three primary import/export paths out of Montana.

Current regional plans to expand Montana's export capacity include MSTI and the Colstrip Upgrade Project. Long term transmission plans beyond MSTI and the Colstrip Upgrade are expected to include additional future lines from east to west out of Montana generally along the path of the existing 500kV system (WECC Path 8). The combination of MSTI and the Colstrip Upgrade project is expected to provide additional export capacity out of Montana of approximately 2100 MW.[41] Future long-term expansion is expected to include additional lines and ties to the existing system at key points along the existing bulk system such as Townsend, Garrison, Mill Creek, and points further west.

Routing MSTI to the Mill Creek area would provide an opportunity to complete a third electric system tie between Townsend and Garrison thus increasing system reliability and capacity from Townsend west to Garrison (with a future completed tie between the Mill Creek Area and Garrison). If MSTI is routed more directly south from Townsend to Idaho, future electric system expansion could prompt a future need for a third line to be constructed linking Townsend, Mill Creek, and Garrison. If the company's current assumptions about long-term load growth and transmission demand prove accurate, routing through Mill Creek has several advantages: it avoids constructing a potentially redundant portion of line, avoids later siting and permitting issues, and assigns future costs of building a new 500 kV segment from Townsend to Mill Creek—which could potentially accrue to Montana ratepayers—to MSTI customers. The long-term of demand for transmission growth (10 to 30 years into the future) clearly hinges on a variety of complex factors; assessing the credibility of NorthWestern Energy's long-range plans is beyond the scope of this report.

Conclusions

NorthWestern Energy's proposed route for MSTI avoided Madison County altogether and ran west from the Townsend substation through Jefferson County, past Butte and into Anaconda in order to take advantage of existing transmission infrastructure around Mill Creek. The cooperating agencies drafting the 2010 Draft EIS observed that integration with the Mill Creek system was not technically critical to the construction of MSTI and thus opted for a shorter route with fewer cumulative impacts (in their estimation)—the route via western Madison County along the Jefferson and Beaverhead Rivers. However, information from NorthWestern Energy about the advantages entailed in routing via the Mill Creek station suggests that the project's viability is significantly enhanced by that route. This may prompt a second look at Mill Creek's relationship to route alternatives in the ongoing EIS process.

Endnotes

1 NorthWestern Energy, 2008. MFSA (Montana Major Facility Siting Act) Application, 1-9. "1. Respond to transmission service requests (TSRs) to move power from Montana to Idaho; and 2. Provide future opportunity to transfer low cost energy resources in Montana to concentrated load centers in WECC." See Chapter 1, available online: http://www.deq.mt.gov/MFS/MSTI/MSTIapplication.mcpx.

2 For example, the web site maintained by NorthWestern Energy for MSTI states: "Energy carried on the MSTI line will be generated primarily from renewable electric generating facilities located in Montana. This electricity will be sold by those generators to customers to help fulfill new energy demand and Renewable Portfolio Standards established by western states. The MSTI line is a new conduit for delivering this clean electricity between its collection point at Townsend to those needing this energy." NorthWestern Energy, MSTI Web Site: http://www.msti500kv.com.

3 See project web sites at http://www.gatewaywestproject.com/, http://www.boardmantohemingway.com/, and http://www.swipos.com/.

4 WECC maintains an online Transmission Project Information Portal that provides basic information about major transmission projects in the Western Interconnection: http://www.wecc.biz/Planning/TransmissionExpansion/Map/Pages/default.aspx.

5 Pacificorp is a large energy holdings company that provides service in Utah, Oregon, Wyoming, Washington, Idaho and California through three subsidiary utility companies, Pacific Power, Rocky Mountain Power, and Pacificorp Energy.

6 A helpful overview of the generator Interconnection process is provided in Porter, K. et. al. *Generation Interconnection Policies and Wind Power: A discussion of issues, problems, and potential solutions.* Subcontractor Report to National Renewable Energy Laboratory (NREL). January, 2009. Available online: http://www.nrel.gov/docs/fy09osti/44508.pdf.

7 Another related method for subscribing and financing new transmission lines involves an "open season" process, during which transmission customers indicate their interest in a particular transmission project through bidding for contracted capacity. NorthWestern Energy has held preliminary open season meetings to define the terms and conditions of the transmission service MSTI will provide. Eventually customers will be asked to make financial and long-term contract commitments. Once such contracts are in place, it will be possible to know with precision the exact mix of generators and types of facilities utilizing the line. Depending on market conditions, the open season process can take years to finalize. Its success also highly contingent on successful siting of the line and FERC rulings. The web site for the NorthWestern Energy MSTI open season is here: http://www.msti500kvos.com/Open_Season_Information.

8 NorthWestern Energy Interconnection Queue, http://www.oatioasis.com/NWMT/NWMTdocs/GenConnect.html, Accessed September 30, 2011.

9 Bonneville Power Administration Network Open Season Results,

http://transmission.bpa.gov/Customer_Forums/open_season_2010/2010_nos_cluster_study_results_012711.pdf.

10 U.S. Energy Information Administration (EIA). *Electric Power Annual: Capacity Additions, Retirements and Changes by Energy Source*. November, 2010. http://www.eia.doe.gov/cneaf/electricity/epa/epaxlfile1_5.pdf.

11 For information on MSTI's role in the larger transmission system, see Northern Tier Transmission Group, 2009. NTTG, 2008-2009 Biennial Transmission Plan, Final Report. November 25, 2009. http://nttg.biz/site/index.php?option=com_docman&task=doc_download&gid=1020&Itemid=31.

12 WECC, 2011. Common Case 2022 State-Adjusted Loads and RPS Requirements, Final Draft. http://www.wecc.biz/committees/BOD/TEPPC/20120106/Lists/Minutes/1/2022%20Renewables_FINAL_20120206.xlsx

13 Mills, A. et. al. 2010. Exploration of Resource and Transmission Expansion Decisions in the Western Renewable Energy Zone Initiative. Lawrence Berkeley National Laboratory, Feb. 2010. http://eetd.lbl.gov/ea/ems/reports/lbnl-3077e.pdf.

14 WECC, WECC-TEPCC 2022 Common Case - Conventional and Renewable Resource Assumptions. http://www.wecc.biz/committees/BOD/TEPPC/20120106/Lists/Presentations/1/120210_2022CCGenerationAssumptions_RTEPWebinar.pdf

15 WECC's "2020 Expected Future" for the acquisition of RPS energy from in-state versus out-of-state sources

points to Utah and Oregon as states likely to acquire more than 25% of their renewable energy from out-of-state sources. WECC 10-Year Regional Transmission Plan Summary, page 23. State production and consumption data can be found via the U.S. Energy Information Administration's State Energy Data System, available online at: http://205.254.135.24/state/seds/.

16 California Public Utilities Commission, 2011. "33% Renewables" web site. http://www.cpuc.ca.gov/PUC/energy/Renewables/hot/33implementation.htm.

17 WECC, WECC-TEPCC 2022 Common Case - Conventional and Renewable Resource Assumptions.

18 By 2016, 75 percent of the RPS-compliant resources must be "Category 1" resources, "Interconnected to a California Balancing Authority, Scheduled Without Substitution, and Dynamically Transferred Energy." It is possible that resources delivered via a DC connection from out-of-state would qualify as scheduled without substitution and that some dynamic scheduling could be achieved from other areas.

19 Two sources of estimates about the impact of the cost of transmission on various scenarios of "competition" between remote wind resources and renewable resources procured in California are the 2010 RETI Phase 2B study and the scenario models supporting the WECC 10-Year Regional Transmission Plan.

20 Western Grid Group, Western Grid 2050: Contrasting Futures, Contrasting Fortunes. http://www.cleanenergyvision.org/wp-content/uploads/2011/08/WG2050_final_rev082211.pdf

21 Shawley, Charles, 2011. "The Impacts of Integrating Montana Wind Resource on Transmission System Operators and Utilities in the Pacific Northwest." Internal report dated Feb. 16, 2011. Available from the author: cshawley@gaelectric.ie.

22 As of May 2012, the Production Tax Credit appears likely to expire in 2012.

23 U.S. Energy Information Administration, 2012. Effects of Increased Natural Gas Exports on Domestic Energy Markets. http://205.254.135.7/analysis/requests/fe/pdf/fe_lng.pdf

24 Aspen Environmental Group. Implications of Greater Reliance on Natural Gas for Electricity Generation, prepared for the American Public Power Association. July 2010.

25 California Independent System Operator, a non-profit public benefit company that manages the majority of California's electricity grid. http://www.caiso.com/.

26 Associated Press. Kemmerer may convert Naughton unit to gas. April 19, 2012. http://www.kemmerergazette.com/v2_news_articles.php?heading=0&page=72&story_id=2991

27 In addition, Oregon's renewable resource portfolio standard requires any utility purchasing new coal energy to increase the percentage of renewable energy in its portfolio to 25%. A useful reference on state standards for renewable energy is the Database of State Incentives for Renewables & Efficiency (DSIRE). http://www.dsire.org.

28 For a summary, see this news alert from the law firm Van Ness Feldman. http://www.vnf.com/news-alerts-696.html.

29 For internal reference: FERC Docket Docket No. EL09-30-000 (MSTI application for merchant rates); FERC Docket No. RM10-23-000 (NOPR on cost allocation).

30 FERC Order 888, "Transmission Open Access. Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities (Final Rule)," http://www.ferc.gov/legal/maj-ord-reg/land-docs/order888.asp. For more basic information, a good starting place is: U.S. DOE, Federal Energy Management Program, Office of EERE, Washington D.C. *A Primer on Electric Utilities, Deregulation, and Restructuring of U.S. Electricity Markets*, May 2002. Version 2.0. http://www1.eere.energy.gov/femp/pdfs/primer.pdf.

31 "History of OATT Reform," FERC web site, http://www.ferc.gov/industries/electric/indus-act/oatt-reform/history.asp.

32 FERC Order 890, "Preventing Undue Discrimination and Preference in Transmission Service (Final Rule)." http://www.ferc.gov/whats-new/comm-meet/2007/021507/E-1.pdf.

33 FERC Order 1000, "Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities (Final Rule)."

34 FERC, Declaratory Order Denying Negotiated Rate Authority, Docket No. EL09-30-000, issued June 18, 2009.

35 Ibid, page 17.

36 FERC, Notice of Proposed Rulemaking on Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities. Docket No. RM10-23-000, issued June 17, 2010: page 69.

37 FERC Docket No. RM10-23-000, page 74. Quoting AWEA.

38 FERC Docket No. RM10-23-000, page 89.

39 Northern Tier Transmission Group, 2011. *FERC Order 1000 Filing for Rehearing and Clarification 08-22-2011*. Available online: http://nttg.biz/site/index.php?option=com_docman&task=doc_details&gid=1289&Itemid=31&date=2012-08-01

40 NorthWestern Energy recently constructed a new gas fired generation station at Mill Creek, now named the Dave Gates Generating Station at Mill Creek (DGGS). The purpose of this new generating station is to provide regulation services on NorthWestern's existing transmission system. The Mill Creek site was chosen for DGGS because of its strong electrical connection to the existing grid and access to an adequate natural gas supply. NorthWestern's desire to site MSTI to the Mill Creek area has nothing to do with the DGGS. Rather it is the strength of the electrical system at that locations and the opportunity for expansion of the high-voltage system from Mill Creek. These two projects are independent of each other and are in no way related and in fact, serve different purposes. The DGGS provides regulation services on the existing transmission system and MSTI is an export transmission project for new generation projects. However, proximity to the Mill Creek infrastructure has similar benefits for both MSTI and the DGGS.

41 WECC Project Portal: Path 8/Colstrip Upgrade Project. http://www.wecc.biz/Planning/TransmissionExpansion/Transmission/Lists/Project%20Portal/DisplayForm.aspx?List=5f218e6b-a8ea-4891-af90-69fd8ba634cc&ID=89.

MSTI REVIEW PROJECT

For more information see:
www.MSTIreviewproject.org