

# Survey of Transmission Siting Practices In the Midwest

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# CHAPTER 1: INTRODUCTION AND PURPOSE

There is widespread concern about the adequacy of the U.S. transmission grid. This concern was heightened by the August 14, 2003 blackout, which was the largest blackout ever in North America. This blackout disrupted service to over 50 million customers over an area extending from Michigan to Western Massachusetts and including such major cities as Detroit, Toronto, Cleveland, Ottawa, Buffalo, and New York City. While it subsequently was determined that the blackout was caused by operational failures, there is ample evidence to suggest that the high-voltage grid—at least in some regions—is overstressed. Such evidence includes the frequency and duration of Transmission Loading Relief (TLR) procedures called by reliability coordinators and the persistent transmission “congestion” cost experienced in some regions. Moreover, transmission investment clearly has lagged the growth in demand for a considerable period. In June 2004 the Edison Electric Institute (EEI) and U.S. Department of Energy (DOE) issued a report which showed that from 1982-2002 transmission capacity was added at a much slower rate than the growth in consumer demand.<sup>1</sup>

Of course, there is no consensus about how much additional transmission capacity is needed in the North American grid. The need for additional transmission capacity is addressed in the planning processes conducted by Regional Transmission Organizations (RTOs), Independent System Operators (ISOs), vertically integrated utilities and public power agencies. In the Midwest, the Midwestern Independent System Operator (MISO), a FERC-approved RTO, periodically prepares a comprehensive transmission plan for its geographic footprint. MISO issued its first transmission plan in June 2003. This plan included input from the transmission-owning members of MISO as well as other market participants. MISO noted that the plans prepared by transmission owners (TOs) generally focused on local needs. Few if any Midwestern TOs incorporated *regional* needs into their analysis. This is consistent with historical practice, where utilities built transmission primarily to deliver generation from their generating plants to their native load customers. However, with open access, the formation of MISO, and the establishment of a regional market for energy, such planning practices are expected to change. That is, transmission plans will start including regional considerations, such as mitigating transmission bottlenecks that constrain economical trade. This process already has begun, as the MISO’s June 2003 plan identified several potential regional upgrades to facilitate trade (and improve reliability) across the Midwest.

As transmission planning becomes more regional in scope, it follows that more interstate transmission lines will be proposed by RTOs, TOs, or other entities. However, in the Midwest, as in all other regions of the U.S., there is no regional entity with the authority to approve construction permits for interstate lines. Such permits must be obtained from state (and in some cases local and federal) government agencies. While there has been much discussion about creating “regional compacts” or “joint boards” or other regional entities to facilitate the review of interstate lines the fact remains that such lines ultimately will need to be reviewed and approved by state agencies. This, in turn, raises the question of whether and how the affected states could coordinate on the siting of a proposed interstate line. Siting a new line in a new corridor typically is difficult when one state is involved; siting a line that traverses more than one state is likely to be even more difficult and complicated. This is particularly true when such lines are intended, at least in part, to foster regional commerce rather than to serve purely local needs.

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<sup>1</sup> Eric Hirst. *U.S. Transmission Capacity: Present Status and Future Prospects*, June 2004.

EEI and the Organization of Midwest States (OMS)—a Regional State Committee formed last year by Midwestern state regulators with jurisdiction within the MISO footprint—agreed to conduct a survey of state siting processes in the MISO footprint. The primary purpose of the survey was to gain a detailed understanding of each state’s siting process and to identify similarities and differences in the respective siting processes. The survey also sought to determine how, if at all, states would or could coordinate on the siting of an interstate line. The survey did not address policy issues or seek policy recommendations; its goal was to elicit a detailed, factual description of the siting process.

A detailed questionnaire of siting authority and practices was prepared jointly by The Brattle Group and Robert Burns of the National Regulatory Research Institute (NRRI), with review and input from the OMS Transmission Planning and Siting Working Group. The questionnaire was circulated on May 14, 2004, to 14 states and the Province of Manitoba.<sup>2 3</sup> Responses were received from 13 of the 14 states and Manitoba. (All responses to the questionnaire are shown in Appendix B) This survey provides a basis for industry and regulators to assess the degree of commonality in state siting processes and the extent to which differences in such processes potentially raise obstacles to the siting of interstate/regional high-voltage lines.

Chapter 2 of the report provides an overview of the MISO geographic footprint (TOs, control areas, lines of transmission, states traversed, etc.) and a short summary of its planning process. Chapter 3 provides a short case study of the Arrowhead-Westin line, a lengthy new line that will be located in Minnesota and Wisconsin and which is expected to be in service by 2008. This line was chosen because it is the most significant new, multi-state line under construction in MISO and because the siting process appears to have worked reasonably well and in a reasonably timely fashion. Chapter 4 reviews and summarizes the responses to the siting questionnaire. This chapter includes a very concise summary of each state’s siting process and contrasts and compares state siting processes across several key parameters, such as one-stop shopping, timeline for making a decision, coordination between state and local agencies, determination of need, and ability to take regional considerations into account. Chapter 5 relates what was learned from the survey to the question of interstate siting. This chapter offers preliminary conclusions as to whether state siting practices create any significant barriers to the siting of interstate lines. Chapter 5 also identifies preliminary actions that states and/or the OMS could take, given existing statutory requirements, to facilitate the siting of interstate lines.

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<sup>2</sup> The questionnaire was sent to the following states: Illinois, Indiana, Iowa, Kentucky, Manitoba, Michigan, Missouri, Minnesota, Montana, Nebraska, North Dakota, Ohio, Pennsylvania, South Dakota, and Wisconsin.

<sup>3</sup> Manitoba Hydro has a coordination agreement with MISO.

## CHAPTER 2: MISO PROFILE AND PLANNING PROCESS

Much of the Midwestern U.S. grid is under the operational control of MISO, which began to provide transmission service in February 2002. Unlike the Northeastern U.S. RTOs, which evolved from tight (centrally-dispatched) power pools, MISO is an entirely new transmission organization formed to provide open and non-discriminatory transmission access and other services to meet the needs of a competitive power market. The MISO transmission system spans 15 states and 1.2 million square miles from the Dakotas to Kentucky. This large area encompasses over 84,000 megawatts (MW) of generating capacity and over 100,000 miles of high-voltage transmission lines. MISO members include 23 TOs and 3 Independent Transmission Companies.

Another key distinction between MISO and the Northeastern U.S. RTOs is that the former—while responsible for the safe and reliable operation of the grid under its functional control—is not the control area operator. Instead, MISO shares operational responsibilities with approximately thirty existing control areas operated by transmission-owning utilities within its footprint. Under this shared approach to operational authority, MISO has the exclusive authority to receive, implement, and confirm all interchange schedules (schedules between control areas). Moreover, MISO has the authority to order the redispatch of any generator connected to transmission facilities it operates if necessary for the reliable operation of these facilities. Local control area operators within MISO are responsible for managing localized congestion within their metered boundaries, performing real-time energy balancing, and regulating resources internal to their control areas.

MISO currently does not operate any spot markets for energy or ancillary services but has filed a proposal at FERC to establish a centralized day-ahead and real-time energy market with locational marginal pricing (LMP) to reflect the cost of congestion. This proposed market, which has been conditionally approved by FERC, would go into effect March 1, 2005.<sup>4</sup> Overall, MISO's proposed market design is very similar to the market design in the Northeast U.S. RTOs.

The MISO transmission planning process is new and evolving. MISO prepares a regional transmission plan on a biennial basis (or more frequently if needed) for the portion of the grid (facilities above 100 kV) under its operational control. TOs prepare plans for lower voltage transmission facilities as well as all distribution facilities, subject to MISO's review. Transmission plans are developed by the MISO's planning staff in collaboration with TOs, transmission customers, state regulators and other interested parties. The regional plan developed by MISO relies extensively on the local, "bottom-up" plans prepared by TOs. Not surprisingly, MISO found that the TO plans are driven primarily by projected load growth and interconnection requests from new generating plants. Such plans rarely included upgrades for expanded trade or "regional" needs.

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<sup>4</sup> There currently isn't a centralized spot market for energy in the Midwest, which traditionally has relied on bilateral transactions.

MISO issued its first transmission plan (MTEP-03) in June 2003. This plan covered the 5-year period 2002 through 2007. In total, MISO TOs plan to have 3,500 miles of new or enhanced transmission capacity in service by 2007 at a projected cost (total investment) of \$1.83 billion. This total includes lines that went into service in 2002, as well as lines planned or proposed through 2007.<sup>5</sup> The majority of these line additions represent improvements to existing facilities in the 161 kV class and below.

The MISO plan also reviewed regional expansions that could be commercially beneficial. Specifically, MISO studied the costs and benefits of transmission expansions that would permit additional imports of coal-fired power from both the Northern Lignite Basin in North Dakota and Montana (the northwestern portion of MISO) and the Illinois Basin to load centers in the Midwest. MISO also studied the costs and benefits of expansions that would enable more wind power to reach Midwestern load centers. These studies were developed in consultation with coal and wind power developers. MISO found that, under certain scenarios, the energy price savings (resulting from the additional supply of coal-fired and wind power) exceeded the cost of the transmission upgrades. However, such benefits depend on the development of additional coal-fired and wind capacity and on other critical assumptions, such as the price of natural gas.

These studies are preliminary but they suggest that the Midwest region could benefit from additional transmission capacity designed to permit the import of power from relatively remote coal and wind resources. They are precisely the type of “big-picture” studies that FERC expects RTOs to perform. Moreover, these studies ultimately could provide the impetus and economic justification for the siting of interstate transmission lines in MISO’s footprint.

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<sup>5</sup> “Planned” lines are new lines that TOs believe should be built. Proposed projects, in contrast, are ones which are still being evaluated.



# CHAPTER 3: ARROWHEAD-WESTIN LINE

## Introduction

The Arrowhead-Westin (AW) project is a new, 220-mile 345 kV line linking the Arrowhead substation near Duluth, Minnesota with the Westin substation near Wausau, Wisconsin. The line is expected to be in service by June 2008 at a projected cost of \$420 million. Construction of the line started in Minnesota in February 2004 and is expected to start in Wisconsin later this year.

The AW project will help relieve the highly-constrained interface in western Wisconsin between the northern portion of the Mid-American Power Pool (MAPP) and the Wisconsin-Upper Michigan System (WUMS). Indeed, the June 2003 MISO Transmission Plan identified the Eau Claire-Arpin 345 kV line, which connects Northern MAPP and WUMS, as one of the nineteen most constrained lines or “flowgates” in the MISO footprint. The constrained MAPP-WUMS interface creates reliability issues and inhibits generation competition within WUMS and trade between WUMS and surrounding regions. The Arrowhead-Westin line will relieve this constraint significantly and thus provide both reliability and economic benefits to WUMS and surrounding areas.

## Regulatory Approval Process

The AW project falls mostly in Wisconsin, so that portion of the line has received the most focus and regulatory scrutiny. A review of the Wisconsin record suggests that state regulators and policymakers were convinced of the need for such a line prior to the siting application filed with the Public Service Commission of Wisconsin (PSCW) in November 1999.<sup>6</sup> Two incidents in the late 1990s demonstrated the limitations and vulnerabilities of the MAPP-WUMS interface. On June 11, 1997, WUMS was importing a large amount of power, in part, because seven nuclear generating units located in Wisconsin, Illinois and Minnesota were all off-line at the same time. TLR procedures were initiated but in spite of this the Eau Claire-Arpin line tripped and created a system disturbance. This disturbance caused an upper voltage collapse in eastern Iowa and northwestern Illinois. The second incident occurred on June 25, 1998. Lightning caused a 345 kV line connecting Minnesota to Iowa and Missouri to trip out of service as well as an internal Wisconsin line. The loss of these two lines caused other lines to trip, with the result that the MAPP system separated into parts. After this separation, the level of northern MAPP generation exceeded the area’s load requirements, which resulted in voltage instability and a blackout in the western part of Ontario.

Shortly after these incidents occurred, former Wisconsin Governor Thompson requested that the state’s electric utilities convene a task force to make recommendations on new generation and transmission measures necessary to avoid reliability issues in the future. In response to this request, the Wisconsin Reliability Assessment Organization (WRAO) was formed in 1998 by several Wisconsin electric utilities. The WRAO formed a transmission task force to study regional constraints affecting Wisconsin’s ability to import electricity and to investigate system reinforcement alternatives to alleviate those constraints. The task force included participation from electric utilities in Illinois, Iowa, Minnesota, Michigan, Manitoba and

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<sup>6</sup> The primary source for the discussion about the genesis of the Arrowhead-Westin line and the regulatory review process in Wisconsin is the Final Decision of the Public Service Commission of Wisconsin, Docket No. 05-CE-113, October 30, 2001.

Wisconsin. On June 14, 1999, the WRAO filed a report with the Wisconsin Public Service Commission (WPSC) that recommended construction of a 345 kV line from the Arrowhead substation to the Weston substation as one possible solution for alleviating the constraints identified in the study.

On November 10, 1999, Wisconsin Public Service Corporation (WPSC) and Minnesota Power Company (MP) jointly filed an application for the issuance of a certificate of public convenience and necessity (CPCN) for authority to construct the Arrowhead-Westin project as recommended in the WRAO report.<sup>7</sup> In addition, WPSC proposed to construct a 345/115 kV substation near Tripoli, Wisconsin and a 115 kV line from the proposed Tripoli substation to the Highway 8 substation in Rhinelander, Wisconsin. The applicants' proposed routes for the new 345 kV line were approximately 210 miles in length and the routes for the new 115 kV line were approximately 42 miles long.

The PSCW must rule on the completeness of a CPCN application no more than 30 days after it is filed. On December 9, 1999, the PSCW ruled that the WPSC-MP application was in fact complete. At least 60 days before filing a CPCN application with the PSCW, the sponsor of a project also must submit an engineering plan to the Wisconsin Department of Natural Resources (DNR) that describes the project and its anticipated impact on air and water quality. On June 2, 2000, the DNR verified to the PSCW that WPSC and MP had provided sufficient information during the summer of 1999 to fulfill their statutory requirement to file an engineering plan.

On April 14, 2000, the PSCW issued a Notice setting a pre-hearing conference and enabling interested parties to submit discovery. An initial pre-hearing conference was held on May 15, 2000, at which time a list of issues was developed to guide the hearing. On July 5, 2000, a Party and Status Order was issued which determined that 36 persons or organizations were entitled to participate in the proceeding. A second pre-hearing conference was held on September 22, 2000, to finalize the issues list and the procedures to be followed at the hearing.

Wisconsin law requires the PSCW to prepare a detailed Environmental Impact Statement (EIS) for any "major action" it is considering that would significantly affect the quality of the human environment. On May 5, 2000, the PSCW released a two-volume draft EIS on the proposed AW project, including both the 345 kV line and the 115 kV line. The public was encouraged to provide written or oral comments during a 45-day comment period. In addition, Commission staff hosted public meetings in six locations within the project area during the weeks of June 5 and 12, 2000, to solicit comments on the project and the draft EIS. On October 3, 2000, the PSCW released its final EIS (an 850-page document). The final EIS evaluated the need for the project, alternatives to the 345 kV and 115 kV lines, and the costs and potential environmental effects of the proposed routes for these lines. The final EIS analyzed four alternative routes.

The PSCW held lengthy public hearings on the AW project, both in northern Wisconsin and in Madison (the state capitol). From January 3, 2001 to February 23, 2001, the PSCW held further hearings in Madison to receive testimony from technical witnesses of the parties and from Commission staff. In all, the PSCW held nine days of hearings at which members of the public could testify and 22 days of hearings at which technical witnesses testified.

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<sup>7</sup> On April 13, 2001, the American Transmission Company (ATC) took over responsibility for the AW project through an agreement with WPSC and MP and became the applicant in the PSCW proceeding.

At its open meeting on August 17, 2001, the PSCW approved the issuance of a CPCN for the construction of the AW project and declined to issue a CPCN for the Tripoli substation and the 115 kV line from Tripoli to Rhinelander. On October 30, 2001, the PSCW issued a Final Decision approving the issuance of a CPCN for the construction of the AW project. The route approved by the PSCW differed somewhat from the route proposed by the applicants.

Thus, it took just under 2 years for the state of Wisconsin to review and issue a final decision granting a CPCN for the AW project. However, issuance of a CPCN was not a license to immediately begin construction of the line. Before construction could begin, the PSCW ordered ATC to prepare a comprehensive Construction and Mitigation Plan. This plan had to include very specific information about environmentally sensitive resources on the route and how they are to be protected. However, to not unduly delay construction of the line, the PSCW decided to sub-divide the Plan into two elements: Part A, concerning construction and mitigation practices of general applicability, and Part B, concerning site-specific construction and mitigation measures, which ATC had to prepare after project route is specifically identified. Construction was permitted to occur once the PSCW approved Part A of the plan.

Construction of the line was delayed, however, for reasons totally unrelated to local siting and mitigation issues. After taking over management of the project, ATC examined the approved cost and schedule and concluded that both needed extensive modification. ATC re-filed the project with the PSCW, requesting approval for a project budget of \$420 million. This projected budget was a 150 percent increase over the original \$165 million budget. The increased costs were due in part to estimated costs for farm disease mitigation, substation improvements, increased costs for building materials and higher prices for land acquisition. The PSCW reopened the case in December 2002 to review the revised cost estimate and retained a consultant to evaluate ATC's projected budget. On December 15, 2003, the PSCW issued a decision finding that the 1) the increased costs were reasonable; 2) there continues to be a clear need for the line to solve congestion problems and to ensure reliability; and 3) any further delays in construction would have significant impacts on the reliability of Wisconsin's transmission grid.

MP faced a simpler process in Minnesota, as it received approval to construct the Minnesota portion of the AW project without receiving a CPCN or otherwise having to go through a formal hearing process.<sup>8</sup> Under Minnesota's then applicable law, the line was deemed to be "exempt" from the requirement to obtain a CPCN. The AW project was granted an exemption because 1) it was less than 25 miles (in Minnesota) and 2) it used an existing corridor and thus was viewed as not having significant potential for causing an adverse environmental impact. The AW project otherwise would have had to go through the formal siting process and acquire a CPCN. Under current Minnesota law, the AW line would not have been exempt because all lines—regardless of their length or whether they utilize an existing corridor—must obtain a CPCN and a routing permit. (Local authorities certify the routing for low voltage law.)

Minnesota did not formally (or informally) coordinate with Wisconsin on the siting of the AW line. However, there might have been some form of interstate coordination if the Minnesota portion of the AW line had required a CPCN. We were informed by Mr. Cupit of the Minnesota Department of Commerce that there is precedent for inter-state coordination between Minnesota and Wisconsin. Minnesota and Wisconsin held joint hearings on a line proposed in the 1980s. One of the primary purposes of the joint hearings was to settle on a crossing point between the states. (Internal routing issues were addressed in state proceedings.)

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<sup>8</sup> Information on the siting of the AW project in Minnesota was gained from a July 27, 2004 phone conversation with Bob Cupit, Director, Office of Energy Reliability, Minnesota Department of Commerce.

## **Conclusion**

While acquiring a CPCN for the AW project was far from a quick or painless process, it is encouraging that a line that the PSCW called “the most complex transmission project ever proposed in Wisconsin” could be sited. Underlying the Wisconsin process was the fact that regulators and policymakers appeared to be sold on the need for the project from the beginning. This project was viewed as critical to maintaining reliability in WUMS and to expanding trade between WUMS and surrounding regions. Being sold on the need for the project, the issue then became one of finding a route and mitigation plan that minimized potential adverse environmental impacts and other adverse impacts on landowners. The experience of the AW project suggests that when there is strong political support for a project, local routing issues, difficult as they may be, can be dealt with in a reasonable (and reasonably timely) manner.

# CHAPTER 4: RESPONSES TO SITING QUESTIONNAIRE

## Review of Questionnaire

A detailed questionnaire of siting authority and practices was prepared jointly by The Brattle Group and Robert Burns of NRRI, with review and input from the OMS Transmission Planning and Siting Working Group. The questionnaire was circulated on May 14, 2004, to 14 states and the Province of Manitoba.<sup>9</sup> Responses were received from every state (except for Indiana) and from Manitoba. (All responses to the questionnaire are shown in Appendix B) Responses to the survey were, with a few exceptions, complete and comprehensive. Where necessary, we had follow-up discussions with state commission personnel to clarify the survey responses.

The purpose of the questionnaire was to gain a detailed understanding of how the siting *process* works today in each of the queried states.<sup>10</sup> Other reports have compiled and summarized state siting laws and regulations<sup>11</sup> but our objective was to gain a thorough and common-sense understanding of how the overall siting process works in the states within MISO's footprint. The survey also asked the states how they would coordinate, if at all, on the siting of a multi-state line. In addition, the survey requested data on the number of high-voltage lines that were sited in each state over the last ten years. The questionnaire did not address policy issues or seek policy recommendations, with two partial exceptions.

There were a total of 21 questions in the survey, many with sub-parts. The survey's initial questions asked the state to clarify its authority over the siting of transmission lines and the agency or agencies that exercise this authority. For example, we asked the state (question 4) if there was one agency with "one-stop" permitting authority to issue or deny construction permits. We then asked the state to describe the findings that the relevant agency must make to issue a permit. Of particular interest, as will be explained below, is whether a state's determination of "need" (if there is one) is separate from the routing/siting process (question 7). The survey also explored the relationship between state and local jurisdictions and the extent to which state agencies coordinated with local agencies on siting analyses and whether state agencies could preempt decisions made by local agencies. We asked the state whether regional determinations could be taken into account in the siting process (question 8b). We asked about the need for and elements of the environmental review (questions 9 and 10). We asked if permits typically were set for hearing and, when they were set for hearing, whether the decision-making authority was required to make a determination after a specified period of time (question 12). We asked if there were processes in place to streamline transmission siting (question 15). As noted above, the questionnaire requested data on the number of transmission lines sited in the last ten years and whether any proposed line was denied a construction permit (question 19). Only two questions sought an opinion from the respondent: one (question 16) identified several proposals for regional collaboration and asked if any of these might lead to effective collaboration on

<sup>9</sup> The questionnaire was sent to the following states: Illinois, Indiana, Iowa, Kentucky, Manitoba, Michigan, Missouri, Minnesota, Montana, Nebraska, North Dakota, Ohio, Pennsylvania, South Dakota, and Wisconsin. All of the U.S. States have jurisdictional utilities within the MISO footprint. Manitoba Hydro has a coordination agreement with MISO.

<sup>10</sup> Throughout the report, the term "state" should be understood to include the Province of Manitoba.

<sup>11</sup> See, for example, *Electric Transmission Line Siting Regulations*, Prepared for EEI by Resource Strategies, Inc., 2001.

the siting of multi-state lines. The other question (question 19c) asked the state to identify what worked well in its siting process and what could be improved.

## Review of Responses

A brief summary of each state's siting process is set forth in Appendix A. Following is a summary of the key findings gleaned from the survey responses. One must be careful about drawing sweeping conclusions about similarities and differences in siting processes among Midwestern states because each state's process tends to be somewhat idiosyncratic. However, given those caveats, some interesting findings and patterns emerged from the survey.

**Siting Authority and One-Stop Permitting:** Each respondent indicated that the state had authority to issue or deny permits for transmission lines. In the majority of cases, this authority is vested with the state's public utility commission. Montana, however, vests this authority in its Department of Environmental Quality. Nebraska places this authority with the Nebraska Power Review Board. In Wisconsin, applicants must receive permits from two state agencies; the Public Service Commission and the Department of Natural Resources. These two agencies generally review transmission line applications in parallel. In Ohio, permits are issued or denied by the Power Siting Board, which is a type of joint agency. The Board has seven voting members consisting of the Chairman of the state Public Utilities Commission and the directors of the:

- Ohio Environmental Protection Agency
- Ohio Department of Agriculture
- Ohio Department of Development
- Ohio Department of Health
- Ohio Department of Natural Resources

and a public member (who must be a licensed engineer) appointed by the Governor. Kentucky also has a Siting Board, which issues permits solely for non-regulated electric generating facilities and transmission lines (i.e., merchant facilities). Permits for regulated lines of 138 kV and above are issued by the state's Public Service Commission.

States typically have permitting authority over a subset of transmission lines rather than all lines and this subset varies widely by state. The exception is Illinois, which has the authority to issue or deny permits for all lines that leave a utility's certificated area. Michigan requires certificates for all lines 345 kV and above and at least 5 miles long. Exempt lines more typically are those below 100-115 kV. For example, Minnesota requires all lines over 100 kV and 10 miles in length to obtain a certificate of need. (Minnesota requires all lines over 230 kV to obtain a certificate regardless of their length). Similarly, Pennsylvania has permitting authority over all lines above 100 kV while in Kentucky all regulated lines of 138 kV or more must receive a permit. Manitoba has permitting authority over all intra-provincial lines of 115 kV and higher. The MISO defines high voltage lines (the lines over which it has operational control and whose cost is recovered in the MISO tariff) as those above 100 kV so the MISO's definition is consistent with that used by many MISO-member states in their siting processes.

Six of the respondents characterized themselves as having a "one-stop" permitting process. However, having a "one-stop" permitting process does not necessarily mean that an applicant need only file with a single (lead) state agency. For example, in Pennsylvania the Public Utility Commission (PAPUC) is the primary agency for transmission siting. Construction permit applications filed at the PAPUC must list the

local, State and Federal governmental agencies which have requirements that must be met in connection with the construction of a proposed line. In addition, Pennsylvania requires that each application be filed at the Department of Transportation, the Historical and Museum Commission, and persons, corporations, and other entities of record owning property within the proposed right-of-way. Iowa identified itself as having a one-stop process outside of city limits but notes that the state's Department of Transportation approves transmission lines on highway rights-of-way and bridges. Ohio's process, with its Siting Board being the lead agency, may be the closest to what some would view as "one-stop" permitting. In Ohio, a siting permit need only be filed at the Board which, as noted, already is comprised of senior officials from all other state agencies with an interest in transmission siting.

Many states indicated that state preemption of local agency decisions is a non-issue because local agencies cannot issue or deny construction permits. Where conflicts occur, states indicated that they can override contradictory local decisions. For example, Michigan pointed out that a certificate issued by the Public Service Commission takes precedence over a conflicting local ordinance, law, rule, regulation, policy or practice that prohibits or regulates the location or construction of a transmission line. In an eminent domain or other related proceeding, a certificate issued by the Michigan Public Service Commission is conclusive and binding as to public convenience and necessity. Similarly, South Dakota indicated that a state permit for construction of a transmission facility could supersede or preempt any county or municipal rule or regulation if the Public Utilities Commission found that the rule or regulation was unreasonably restrictive. (Without such a finding by the South Dakota commission, no route may be designated which violates local land-use zoning rules, regulation or ordinances.) Wisconsin indicated that a local ordinance cannot block construction of a line that has received a certificate of public convenience and necessity. Ohio stated that its Siting Board jurisdiction preempts that of local agencies. However, there is a "chicken and egg" aspect to the question of local preemption because, as noted above, some state commissions cannot act on a siting application until the applicant secures all necessary approvals from local (and other state) agencies. Michigan, for example, explains that permits may be required from municipal and county agencies, with the latter potentially requiring permits for items such as soil erosion and sedimentation control. North Dakota responded that the Public Service Commission is the ultimate permitting authority but there are often other state, federal or local permits or requirements for crossing roads, railways, waterways and wetlands. Thus, while no state apparently can have its siting decisions explicitly preempted by local agencies the latter have a critical role in determining where (and possibly whether) a line is sited.

**Hearings:** As one would expect, the responses suggest that a formal hearing process would be needed to acquire a siting permit and/or certificate of need for a new high-voltage line. Five states, Minnesota, Ohio, Michigan, Wisconsin and Illinois indicated that a permit application must be set for hearing. Most of the remaining states indicated that a permit application likely would be set for hearing, particularly if any objections were filed to the siting permit. For example, Iowa responded that a hearing is mandatory if objections to a project are filed. In South Dakota, public input hearings are mandatory but a formal evidentiary hearing may be waived if all parties agree to a negotiated "Terms and Conditions" for a permit and the agreement is accepted by the Commission. Pennsylvania responded that applications typically are set for hearing. The sole exception is Nebraska, where applications for transmission lines are *rarely* set for hearing. Of course, Nebraska is a unique state in that it is served entirely by municipal utilities, public power districts and cooperatives. There are no IOUs in Nebraska. However, even Nebraska normally will hold a hearing for controversial or very large transmission projects.

**Issues Covered in the Siting Process:** Before granting a construction permit for a line, most states must find 1) that the line is needed (determination of need) and 2) analyze the line's potential environmental impacts. South Dakota was the only state that did not require a determination of need for a new transmission facility. In North Dakota, only investor-owned utilities (IOUs) are required to obtain a need certificate for a new transmission facility.<sup>12</sup> Kentucky performs a need determination for regulated transmission lines but not for unregulated (merchant) lines. Every state except Iowa and Nebraska expressly requires an environmental review; however, environmental issues can be raised in Iowa's siting proceedings. In Nebraska, conducting an environmental review is not part of the Power Review Board's mandate though the state's utilities, if they wish to, can include environmental impacts in their assessment of where a line should be sited.<sup>13</sup>

We found that, in general, the determination of need is not decoupled from the siting/routing process. Minnesota is a major exception—the Minnesota Public Utilities Commission makes the need determination and the Minnesota Environmental Quality Board (EQB) makes the routing decision. Need is not an issue in the siting/routing process conducted by the EQB. The hearing on the routing process can occur either after or in parallel with the PUC's need hearing; indeed, the PUC and EQB can elect to hold a joint hearing. However, an applicant must receive a need certificate to receive a routing permit from the EQB. North Dakota also decouples the need proceeding from the routing permit though, as noted above, only IOUs are required to get a need certificate. The typical practice, however, is for need and routing issues to be addressed jointly by the state agency with decision authority.

**Timeline and Schedule:** The siting-related issue that probably is of most concern to industry is the *time* needed to obtain the necessary permits to build a new transmission line. Of course, the time needed to bring a new line into service involves more than the acquisition of the necessary permits. Sometimes, lines can be delayed for years by litigation undertaken after permits have been received. Nevertheless, having a reasonable, definitive schedule for issuing or denying permits often is viewed as one of the primary reforms needed in the siting process.

The following states indicated that the Commission (or other state decision-making authority) had to issue a decision within a specified period of time: Michigan, Minnesota, Montana, North Dakota, South Dakota and Wisconsin. In these states, decision typically must be rendered from six months to one year after an application is filed (or deemed to be complete). For example, in Minnesota, the Commission has six months to approve or reject a certificate of need application and the Environmental Quality Board has one year to issue a permit for a transmission line over 200 kV and six months for a transmission line between 100 kV and 200 kV. In North Dakota, the Commission has six months to act on a Route Permit application. The Wisconsin Commission has six months to approve or reject a certificate of need application and the state's Department of Natural Resources must act within 30 days after the Commission issues a certificate. Some of the remaining states indicated that their decision-making process would require a comparable amount of time. For example, Illinois said that its review process could take between three and eighteen months but is typically completed in twelve months. Iowa explained that if there are objections, eminent domain requests, or issues in dispute, the decision process could take over a year. Pennsylvania said its siting process could take anywhere from six months to three years and noted that the length of the process is positively correlated with the length of the line.

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<sup>12</sup> August 4, 2004 phone communication between Greg Basheda and Jerry Lein, North Dakota Public Service Commission

<sup>13</sup> August 6, 2004 phone communication between Greg Basheda and Tim Trexel, Executive Director, Nebraska Power Review Board



In considering these timelines one must keep in mind that applicants may be required to obtain permits from other state or local agencies before filing at the state commission, as explained above. In such states, the time needed to obtain those approvals therefore must be added to the one year (or longer) hearing process before the lead state permitting agency.

**Regional Considerations/Interstate Lines:** An interesting and perhaps surprising result was that eight of the states, as well as Manitoba, indicated that regional needs could or probably could be taken into consideration in their determination of need. Four of the five remaining states indicated that they were unsure as to whether regional needs could be taken into account. Only Kentucky stated that regional needs could not be taken into consideration in their determination of need.

However, not surprisingly, no state said that its need determination would either be met or waived if a RTO identified the need for a line. Only one state, South Dakota, indicated that it had additional requirements for lines that crossed state or provincial boundaries. Minnesota explained that while it had no additional requirements for interstate lines there would be an attempt to reach agreement with the neighboring state on a crossing point. Manitoba indicated that lines crossing the U.S.-Canadian border required the approval of Canada's National Energy Board.

**New Lines Built in Last Ten Years:** A significant number of new lines have been sited over this period, though most of these are short lines built for local system reinforcement or to interconnect new generators to the grid. Iowa and Ohio have been among the more active states in terms of new line sitings while Michigan stated that it has had no new line sitings in the past ten years. Only three interstate lines were identified, and the application for one of these lines, the Chisago line, a 28 mile, 230-kV line traversing Illinois and Wisconsin, has been withdrawn. The remaining two interstate lines include the Arrowhead-Westin line discussed in Chapter 3 and a 21-mile line connecting a substation in South Dakota to a substation at a power plant in Wyoming.



## CHAPTER 5: PRELIMINARY FINDINGS AND CONCLUSIONS

The survey responses provide a reasonably thorough understanding of each state's current siting process. Of course, any specific transmission proposal, particularly a long line on a new right-of-way, will have its own unique issues that need to be addressed and which may cause the process to veer from its "normal" track. But the survey responses provide a good basis to compare and contrast the siting processes of thirteen states within the MISO footprint.

As noted in Chapter 4, the siting processes tend to be similar in some respects. Most states conduct formal hearings (even if they are not necessarily required) to review permit applications for most new high-voltage lines, particularly lines that are at least 10 miles long. Most states must perform a need determination and an environmental review before approving a new line. In most states, the public utility commission (i.e., the agency that sets rates for jurisdictional utilities) is the agency with authority to issue or deny permits for new lines. Most states apparently also can take regional needs into account in their determination of need.

The survey also revealed some notable differences. There appears to be a wide range on the extent to which the Commission (or lead permitting agency) provides "one-stop" permitting. Ohio's process, with the Siting Board as the lead agency, appears to be the closest to the one-stop approach. Wisconsin has a "two-stop" process in which the two lead state agencies—the PSC and DNR—process and review an application in parallel. Other states, such as Illinois and Michigan, make it plain that they do not have a one-stop approach and that an applicant potentially would need to receive the approval of several other state and local agencies before receiving a permit from the Commission. Indeed, Illinois points out that a utility will typically have secured all necessary permits *prior* to submitting its application to the ICC. Other states, like Iowa, explain that other state agencies become involved under certain circumstances (e.g., bridge crossings). Thus, the extent to which an applicant will have "one-stop" shopping may be dependent, in part, on the route and characteristics of the terrain traversed by the proposed line.

Another notable difference is on timelines and schedules. The respondents are about evenly split between those who have to issue a decision by a time certain and those who do not. This does not necessarily mean that those states without statutory deadlines take longer on average to make a decision than states with statutory deadlines—further research would be needed to answer that question. In addition, statutory deadlines need to be looked at in combination with the one-stop permitting issue because a statutory deadline on the state commission's hearing process is less meaningful if the state requires applicants to receive approvals from several other state and local agencies before applying to the Commission. But having a statutory deadline does make the length of the process somewhat less uncertain for the applicant (and intervenors) and provides somewhat greater assurance that new transmission projects can be approved within a reasonable amount of time.

The survey also showed that, in general, states do not have specific procedures or separate requirements for inter-state lines and have not given high priority to interstate coordination. This is not surprising because, historically, most transmission lines have been planned and built by local, vertically-integrated utilities to

serve local (native load) customers. Although there are exceptions, lines have not been built primarily to foster the trading of power between control areas. However, as indicated by the MISO plan, transmission planning and the kinds of transmission expansion under consideration is changing as a result of the establishment of a large Midwestern wholesale power market. Siting processes may need to adjust or evolve in some manner to reflect transmission planners' greater focus on regional needs.

Nonetheless, it was encouraging to learn that there is some precedent for interstate coordination in the Midwest. Minnesota indicated that it has coordinated with neighboring states (e.g., Wisconsin) in the past on the siting of interstate lines and would expect to do so in the future to establish a mutually-agreed on crossing point. It also was encouraging to learn that a majority of states believe that they can take regional considerations into account in a determination of need. Moreover, only one state said that it could not take regional needs into account; with the remaining states simply unsure whether they could or could not.

Nor has the survey revealed any intractable barriers to the siting of lines primarily designed to foster regional trade. The differences in siting practices that we have noted—different schedules, different degrees of “one-stop” permitting, different scope (need and/or environmental review)—do not appear to create any insurmountable obstacles to the siting of interstate lines. Different procedures and different information requirements create additional costs for the applicant but that presumably would be taken into account by the applicant in its evaluation of the economics of a proposed line.

## Recommendations

The siting of interstate lines in the MISO footprint obviously would be facilitated if all Midwestern states had identical or virtually identical siting processes, particularly one with one-stop permitting and mandatory decision-making deadlines. In addition, the siting of such lines would be greatly facilitated if a MISO endorsement would meet or waive a state's need determination. Neither of these things is going to happen. It is entirely unrealistic to expect states to pass the legislation needed to synchronize their siting process to a “standard” regional process and/or to cede their authority on need determination to a RTO. However, there are some modest, reasonable steps that states, working through the OMS and with industry, could take under existing statutes to facilitate interstate siting. To that effect, we offer six recommendations.

1. **Each state should agree to take regional considerations/MISO plans into account in their determination of need.** Eight states already have indicated that they can do this. OMS should seek to have all of its' member states agree to take regional needs into consideration when considering the need for an interstate line designed, at least in part, to foster regional trade. MISO's endorsement obviously would not cause a state to waive its need requirement, but a state should accept (and welcome) MISO's participation and give appropriate consideration to MISO's findings regarding the need for the proposed transmission facility. States that are unsure of their authority to consider regional needs should seek to have this aspect of their authority clarified.
2. **OMS should consider developing a standard application form for proposed interstate lines.** Once developed this standard application form would then be used by an applicant seeking to site a line that would traverse two or more MISO states. A common application form would, over time, reduce the regulatory cost associated with the permitting of interstate lines.
- 3.

**Have a systematic and ongoing dialogue between OMS and MISO on transmission planning.**

OMS had made it clear that it cannot approve transmission lines because it does not have the legal authority to do so. Lines must be approved by the applicable state agencies. However, OMS can provide input and guidance to the MISO's planning process and "flag" any proposed lines or routes that would be problematic. An ongoing dialogue would prevent MISO from spending too much time evaluating lines that are not likely to be sited and also would prevent state regulators from being "surprised" by an application for an interstate line of which they were totally unaware.

In addition, we believe that OMS should encourage its members to explore their statutory authority to:

4. **Hold joint hearings.** Joint hearings would reduce regulatory costs and establish a common record for all affected states.
5. **Conduct a single joint study.** Conducting a single joint study for proposed interstate lines would, much like joint hearings, reduce regulatory costs and establish a common record for all affected states.
6. **Coordinate schedules and deadlines.** Coordinating schedules and deadlines among all affected states would reduce regulatory uncertainty and regulatory costs.

This by no means is a definitive list of all the actions that OMS could take to help coordinate the siting of interstate lines in the MISO footprint but it would be a very good start.