UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Xcel Energy Services Inc.	)	
	)	
and	)	
	)	**Docket No. EL12-28-000**
Northern States Power Company, a Wisconsin corporation	)	
	)	
Complainants	)	
	)	
v.	)	
	)	
American Transmission Company, LLC	)	
	)	
Respondent	)	

MOTION FOR LEAVE TO ANSWER AND ANSWER OF XCEL ENERGY SERVICES INC. AND NORTHERN STATES POWER COMPANY, A WISCONSIN CORPORATION

Pursuant to Rules 212[1] and 213[2] of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission (the "Commission" or "FERC"), Xcel Energy Services Inc. ("XES"), on behalf of itself and its utility operating company affiliate Northern States Power Company, a Wisconsin corporation ("NSPW," and collectively with XES, "Xcel Energy"), submits this Motion for Leave to Answer and Answer (this "Answer") in response to the Answer of American Transmission Company, LLC ("ATC") ("ATC Answer") filed on March 5, 2012.

I. INTRODUCTION

The instant dispute centers on the contractual- and tariff-based obligations of NSPW and ATC to jointly construct and own a 145-mile long, 345 kV transmission facility that will connect

[1] 18 C.F.R § 385.212 (2011).

[2] 18 C.F.R. § 385.213 (2011).

their respective facilities. The Midwest Independent Transmission System Operator, Inc. ("MISO" or "Midwest ISO") designated NSPW and ATC as jointly responsible for the proposed 345 kV Multi-Value Project ("MVP") from NSPW's Briggs Road Substation to ATC's North Madison Substation (the "La Crosse – Madison Line" or the "Project") in the 2011 Midwest Transmission Expansion Plan ("MTEP11").[3] MISO's designation and the obligation for joint responsibility is fully consistent with the plain terms of the Agreement of the Transmission Facilities Owners to Organize the Midwest Independent Transmission System Operator, Inc., a Delaware Non-Stock Corporation ("TOA" or "ISO Agreement")[4] and the MISO Open Access Transmission, Energy and Operating Reserve Markets Tariff ("Tariff").[5]

Xcel Energy merely seeks for NSPW to fulfill its obligations. Only after extensive but unsuccessful efforts to engage ATC in a dialogue, did Xcel Energy initiate this proceeding to enforce those obligations. In its Complaint,[6] Xcel Energy requested that the Commission: (1) find ATC had not complied with the TOA and the Tariff; and (2) direct ATC to negotiate with Xcel Energy to develop the required shared ownership and construction of the La Crosse – Madison Line.

ATC's Answer does not successfully rebut any of Xcel Energy's arguments or overcome Xcel Energy's requested relief. To the contrary, ATC's Answer misinterprets the TOA, ignores

[3] Midwest Independent Transmission Operator, Inc., MISO Transmission Expansion Plan 2011, Appendix A at line 142, *available at* https://www.misoenergy.org/_layouts/MISO/ECM/Redirect.aspx?ID=113909. The Project is part of a larger project MISO approved in MTEP11, which extends on from ATC's North Madison Substation to ATC's Cardinal Substation. ATC has rebranded the transmission project from the Briggs Road Substation to the North Madison Substation on to the Cardinal Substation as the "Badger Coulee Project" or "Badger Coulee Line." *Id.* MTEP11 refers to the Briggs Road to North Madison segment as the "North La Crosse – North Madison" Line.

[4] The TOA is a rate schedule accepted for filing by the Commission. Midwest ISO, FERC Electric Tariff, Fifth Revised Volume No. 1, Rate Schedule 1.

[5] Tariff, Attachment FF, Section V; MISO MVP Fact Sheet, *available at*: https://www.misoenergy.org/Library/Repository/Communication%20Material/Power%20Up/MVP%20Benefits%20-%20Total%20Footprint.pdf; MTEP11, Appendix A at line 142.

[6] Complaint and Request for Fast Track Processing of Xcel Energy Services Inc. and Northern States Power Company, a Wisconsin corporation, Docket No. EL12-28-000 (February 14, 2012) ("Complaint").

Tariff requirements, and fails to mention MISO's explicit Tariff obligations to designate ownership of MTEP-approved projects, which has occurred in this case. ATC's Answer mistakenly asserts that the Share Equally Provisions[7] apply only to a subset of projects, despite the unambiguous terms of the TOA. Notably, the MISO Transmission Owners ("TO") group (the transmission-owning members of MISO subject to the TOA) recognizes that the TOA is clear on its face.[8]

Further, ATC's arguments fail under the Commission's recent decision in *Duquesne*,[9] which recognized the TOA, as a contract, is to be interpreted by its plain terms. And ATC's attempt to distinguish other existing projects ignores the TOA and the Tariff.

ATC also claims it would be inequitable to find in Xcel Energy's favor even though its own analysis contradicts that view. There is no doubt based on this record that Xcel Energy and ATC have both planned for and worked on the Project. But this case is not about who may have worked harder or initiated local outreach sooner; it is about complying with the TOA and the Tariff, rate schedules accepted for filing by the Commission and thus binding on the parties.

ATC alternatively asks that the Commission grant ATC a share of the CapX2020 Twin Cities – La Crosse Project and the Brookings Project.[10] There is clearly no basis in the TOA or

[7] Xcel Energy refers to the following language of the TOA as the "Share Equally Provisions": "Ownership and the responsibility to construct facilities which are connected between two (2) or more Owners' facilities belong equally to each Owner unless such Owners otherwise agree…." TOA, Appendix B, Section VI.

[8] Motion for Leave to Intervene and Comments of International Transmission Company D/B/A ITC*Transmission*, Michigan Electric Transmission Company, LLC, and ITC Midwest LLC, Docket No. EL12-28-000 (March 5, 2012); Motion to Intervene and Comments of Northern Indiana Public Service Company, Docket No. EL12-28-000 (March 5, 2012) ("NIPSCo Comments"); Motion to Intervene and Comments of the MISO Transmission Owners, Docket No. EL12-28-000 (March 5, 2012) ("MISO TO Comments").

[9] *Midwest Independent Transmission System Operator, Inc. & Duquesne Light Co.*, 138 FERC ¶ 61,111 (2012) ("Duquesne").

[10] As the Commission is aware, NSPW, along with its affiliated operating company, Northern States Power Company, a Minnesota corporation ("NSPM" and together with NSPW the "NSP Companies"), are members of the CapX2020 Initiative, where eleven investor-owned, cooperative and municipal entities have engaged in collaborative planning, permitting, engineering, development and construction of nearly 700 miles of new 345 kV and 230 kV transmission facilities. The initial set of projects undertaken by the CapX2020 Initiative (the "Group 1

Tariff to grant this relief. The situations surrounding the CapX2020 Projects are fundamentally dissimilar and ATC's alternative claim is unsupported and contrary to the TOA and the MTEP and Tariff processes.

In the end, Xcel Energy's position on the TOA and Tariff is correct and is supported by all of the intervenors who filed substantive comments except ATC and those who are business partners of ATC.[11] The relief requested in the Complaint should be granted.

II. MOTION FOR LEAVE TO ANSWER

Pursuant to Rule 212,[12] XES respectfully requests leave to file an Answer to ATC's Answer. Generally, an Answer to an answer is not permitted;[13] however, the Commission permits such Answers when the Answer provides useful and relevant information that will assist the Commission in the decision making process,[14] or where the Answer will correct factual inaccuracies and clarify the issues before the Commission.[15] Xcel Energy submits that the Commission should accept this Answer because it will clarify the issues, correct factual inaccuracies in ATC's Answer, and will assist the Commission in the decision making process.

Projects") are: (1) a 68 mile long, 230 kV transmission line from Bemidji to Grand Rapids in Minnesota (the "Bemidji Project"); (2) a 250 mile long, 345 kV transmission line from Fargo, North Dakota to Monticello, Minnesota (the "Fargo Project"); (3) a 270 mile long, 345 kV transmission line from Brookings County, South Dakota to the Twin Cities (the "Brookings Project"); and (4) a 145 mile long, 345 kV transmission line from the Twin Cities to La Crosse, Wisconsin (the "Twin Cities – La Crosse Project").

[11] Motion to Intervene and Comments of Duke-American Transmission Company, LLC, Docket No. EL12-28-000 (March 5, 2012) ("Duke-ATC Comments"). The Duke-ATC Comments raise issues substantially similar to the ATC Answer. While XES focuses on responding to the ATC Answer, the responses herein should also be considered responses to the Duke-ATC Comments to the extent the Duke-ATC Comments make assertions similar to the ATC Answer.

[12] 18 C.F.R. § 385.212 (2011).

[13] 18 C.F.R. § 385.213(a) (2011).

[14] *See, e.g., Midwest Independent Transmission System Operator, Inc.*, 131 FERC ¶ 61,285 (2010).

[15] *See, e.g., Entergy Services Inc.*, 123 FERC ¶ 61,227 (2009).

III. ANSWER

The contract and policy arguments in ATC's Answer lack merit. The plain terms of the Share Equally Provisions, coupled with MISO's authority under the Tariff to designate project ownership, control. The TOA and Tariff structure obviously does not impede transmission development or exclude third parties from developing projects in the MISO footprint.

Further, the equities support Xcel Energy's claim. Xcel Energy merely seeks to enforce the TOA and fulfill its Tariff obligations. The record reflects that Xcel Energy has diligently participated in planning the Project and sought to enforce its rights over several years, contrary to the claims in ATC's Answer. However, ATC's unwillingness to negotiate in a manner consistent with the TOA and Tariff, necessitated this request for the Commission to assist in resolving these issues.

A. ATC is Obligated to Share Equally

The ATC Answer ignores the plain words of the TOA and Tariff. The Share Equally Provisions are explicitly applicable to the La Crosse – Madison Line and obligate the parties to share responsibility. To make its case, ATC's Answer misstates the contract, ignores MISO's Tariff authority, and confuses its desired outcome with the relevant obligations.

1. The Share Equally Provisions Are Unambiguously Applicable

The TOA is an integrated contract[16] that sets forth the obligations of the MISO TOs as to each other and to MISO. ATC's Answer makes no credible contract argument rebutting the plain terms that "the responsibilities to construct" the La Crosse – Madison Line "belong equally" to NSPW and ATC and "the responsibility for maintaining" the Project "belongs to"

[16] Duquesne at P 30.

NSPW and ATC.[17] Further, ATC's Answer ignores the clear dictate in the Tariff that MISO "shall designate" "ownership" and other responsibilities for projects included in the MTEP.[18]

Based on its own conclusory assumptions and inadmissible parol evidence, ATC's Answer assumes the Share Equally Provisions apply only to a small subset of projects proposed by MISO's Planning Staff.[19] ATC assumes that because "transmission needs identified by the Owners in connection with their planning analyses…" must be considered by MISO planning staff that the Project is outside the bounds of the Share Equally Provisions.[20] Certainly, any reasonable transmission plan would give due deference to the transmission needs identified by constituent transmission owners. And, it would also seek to avoid duplication of facilities by identifying opportunities to consolidate projects to meet multiple identified needs. But these terms do not support ATC's interpretation. ATC neglects to account for the fact that these inputs "shall [be] integrate[d] into the development of the Midwest ISO Plan."[21]

The TOA plainly states that the Share Equally Provisions apply to the "Midwest ISO Plan." The TOA supports no other interpretation. The paragraph could not be more clear:

> The Planning Staff shall present the Midwest ISO Plan, along with a summary of relevant alternatives that were not selected, to the Board for approval on a biennial basis, or more frequently if needed. The proposed Midwest ISO Plan shall include specific projects already approved as a result of the Midwest ISO entering to service agreements with transmission customers where such agreements provide for identification of needed transmission construction, its timetable cost, cost and Owner or other parties construction responsibilities. Ownership and the responsibility to construct facilities which are connected to a single Owner's system belong to that Owner, and that Owner is responsible for

[17] TOA, Appendix B, Section VI.

[18] Tariff, Attachment FF, Section V.

[19] ATC Answer at p. 16 (citing TOA, Appendix B, Section VI).

[20] *Id*.

[21] TOA, Appendix B, Section V (emphasis added).

> maintaining such facilities. Ownership and the responsibility to construct facilities which are connected between two (2) or more Owners' facilities belong equally to each Owner, unless such Owners otherwise agree, and the responsibility for maintaining such facilities belongs to the Owners of the facilities unless otherwise agreed by such Owners. Finally, ownership and the responsibility to construct facilities which are connected between an Owner(s) system and a system or systems that are not part of the Midwest ISO belong to such Owner(s) unless the Owner(s) and the non-Midwest ISO party or parties otherwise agree; however, the responsibility to maintain the facilities remains with the Owner(s) unless otherwise agreed.[22]

These provisions are comprehensive in nature and apply to all projects approved in the MTEP. There are no exceptions. This is why "[a]pproval of the Midwest ISO Plan by the Board certifies it as the Midwest ISO's plan for meeting the transmission needs of all stakeholders ...."[23] And the Tariff requires that "[f]or each project included in the recommended MTEP, the plan shall designate … one or more Transmission Owners or other entities to construct, own and/or finance the recommended project."[24]

The TOA makes clear that the Share Equally Provisions apply here, as the Project will connect the facilities of NSPW (the Briggs Road Substation) to the facilities of ATC (the North Madison Substation). The MISO TO group agrees: the Share Equally Provisions are "clear and unambiguous, and mean[] that if a transmission project connects between two or more Owners' facilities, the Owners share equally in the responsibility to construct, own, and maintain the facilities unless otherwise agreed."[25] MISO also agreed in its letters leading up to the Complaint that are included in the record.[26] ATC has identified no provisions to the contrary.

---

[22] TOA, Appendix B, Section VI (emphasis added).

[23] *Id.* (emphasis added).

[24] Tariff, Attachment FF, Section V (emphasis added).

[25] MISO TO Comments at p. 6; *see also*, NIPSCo Comments at p. 3.

[26] *See*, Complaint, Attachment I, Attachment K.

2. MTEP Approval Triggers a Duty to Implement

ATC's Answer characterizes the Share Equally Provisions as an "obligation to build."[27] This is only partially correct. The Share Equally Provisions are, in fact, one part of the larger agreement amongst the MISO TOs for planning and implementation of transmission expansion.

The Share Equally Provisions identify the affected TOs who have a responsibility to construct facilities identified in the MTEP. Once approved in an MTEP, "[t]he affected Owner(s) shall make a good faith effort to design, certify, and build the designated facilities to fulfill the approved Midwest ISO Plan" (referred to hereafter as the "Duty to Implement").[28] These Share Equally Provisions and Duty to Implement work together to ensure that (a) owners(s) will be identified to shoulder the responsibility to construct and maintain a project and (b) the identified owner(s) will be obligated to make a good faith effort to implement it.

ATC's Answer claims "[t]here is no need for a contractual 'obligation to build' transmission projects that transmission owners themselves proposed to build."[29] According to ATC, "[i]t is hard to fathom that a transmission owner that needed to address its own system requirements … would need to be further 'obligated' to build transmission facilities it had itself proposed…."[30] And ATC believes that "[t]his language would obviously not be needed if a project is proposed by an entity that has the intention, and the means, to complete the project, as is the case here."[31]

---

[27] ATC Answer at p. 14.

[28] TOA, Appendix B, Section VI. Similar provisions applicable to TOs and non-TO third parties are included in the MISO Tariff, Attachment FF, Section VI.C.

[29] ATC Answer at p. 18.

[30] *Id*. Xcel Energy disagrees that ATC has proposed the La Crosse – Madison Line.

[31] ATC Answer at p. 18.

There are serious flaws to this argument. First, it is contrary to the plain language of the TOA. Second, it assumes a project will proceed voluntarily; but the TOA and the Tariff provide mechanisms to ensure follow through. Implementation of a project approved in an MTEP is assumed in modeling for subsequent planning cycles.[32] Therefore, each successive MTEP builds upon the transmission system assumed and approved in previous MTEPs. Without a good faith Duty to Implement, there is no mechanism to hold parties accountable for following through with their responsibilities to construct once an MTEP is approved. Failure to follow through (unless construction is precluded by lack of required state regulatory approvals or other necessary approvals) creates both the possibility of invalidating the results of previous MTEPs (because assumed projects do not exist) and creating the risk of shifting costs to other stakeholders.[33] By imposing a good faith Duty to Implement, the Tariff mitigates that risk and allow stakeholders to rely on approved projects getting built and recourse if they do not. It is good business practice for the TOA to obligate affected TOs to engage in good faith efforts to carry out those obligations.[34]

3. ATC's Answer Ignores Recent Commission Precedent

ATC provides its narrative opinion of the meaning of the TOA[35] to argue that the interpretation that Xcel Energy and the MISO TO group glean from the plain terms of the Share Equally Provisions[36] is not what they really mean. ATC's argument is to no avail.

---

[32] Complaint, Attachment B (Affidavit of Mr. Daniel P. Kline) at P 52.

[33] *See, eg.*, Formal Complaint of Jeffers South, LLC v. Midwest Independent System Operator, Inc., Docket No. EL10-86-000 (September 1, 2010) (complaint brought by Interconnection Customer against MISO for shifting certain costs of planned (Appendix B) load serving projects to Interconnection Customers because TO determined that such project was not needed).

[34] *See,* ATC Answer at p. 24.

[35] ATC Answer at pp. 13-15; Exhibit 1.

[36] Complaint at pp. 22-25; MISO TO Comments at pp. 5-7; NIPSCo Comments at p. 3.

The Commission recently ruled that this type of explanatory justification cannot override the TOA, a contract that is to be interpreted according to its terms.[37] The Commission found that "when the terms of a contract are clear and unambiguous, the terms of the contract control and the Commission is not to consider parol evidence…."[38] "To determine whether an agreement is ambiguous, the Commission must look within the four corners of the agreement and not to outside sources."[39]

The Share Equally Provisions could not be more clear or unambiguous: "Ownership… [of] facilities which are connected between two or more Owner's facilities belong equally to each Owner…."[40] And, when the "Commission must review the entire agreement and particular words should be considered… in light of the obligations as a whole…,"[41] the outcome is clear.

The TOA lays out a comprehensive planning framework that is implemented in Attachment FF of the MISO Tariff. Ownership and construction responsibility are integral to the implementation of this planning framework and of a piece with the rest of the terms of Appendix B of the TOA. The Share Equally Provisions are unambiguous and do not require extrinsic sources to be properly interpreted. The MISO TO group agrees.[42]

As demonstrated, the terms of the TOA, when read as a whole, could not "suggest more than one meaning when viewed objectively…"[43] Because the Share Equally Provisions are clear and unambiguous, the Commission may not rely on impermissible parol evidence of the type

[37] Duquesne at PP 25-28.

[38] *Id.* at P 25.

[39] *Id.* at P 26.

[40] TOA, Appendix B, Section VI.

[41] Duquesne at P 28.

[42] MISO TO Comments at pp. 5-6.

[43] Duquesne at P 27 (citing *Bank of N.Y. v. First Millennium, Inc.*, 607 F.3d 905, 914 (2d Cir. 2010)).

offered by ATC. ATC's claimed negotiation history is inadmissible parol evidence as it seeks to explain the Share Equally Provision based on information outside the four corners of the TOA.

4. MISO Is Obligated to Designate Project Owners

ATC's Answer incorrectly addresses MISO's authority and duties under the Tariff.[44] Xcel Energy and the "MISO Transmission Owners interpret the plain language of the Tariff to give MISO the authority to designate an entity responsible for projects that the MISO Board of Directors approves through the MTEP."[45] Section V of Attachment FF of the Tariff provides MISO with broad authority to designate the entity responsible for funding, ownership, and construction of a project approved in the MTEP:

> For each project included in the recommended MTEP, the plan shall designate, based on the planning analysis performed by the Transmission Provider and based on the other input from participants, including, but not limited to any indication of a willingness to bear cost responsibility for the project; and applicable provisions of the ISO Agreement, one or more Transmission Owners or other entities to construct, own and/or finance the recommended project.[46]

In accordance with this provision, MISO has appropriately designated both Xcel Energy and ATC as owners of the La Crosse – Madison Line.[47]

ATC argues that "MISO has not been vested with any rights by any state legislature or state commission regarding construction of the facilities that may be deemed necessary as a

[44] ATC Answer at pp. 24-26.

[45] MISO TO Comments at p. 7; NIPSCo Comments at p. 3.

[46] Tariff, Attachment FF, Section V (emphasis added).

[47] MISO MVP Fact Sheet; MTEP11, Appendix A at line 142. Column C in Appendix A of MTEP11 is labeled as "Geographic Location by TO Member System" and is where MISO, as required by the Tariff (see note 18, *supra*), has designated the owner(s) of a particular MTEP project. For example, the Monroe County – Council Creek 161 kV transmission project will connect the systems of NSPW and ATC but MISO has listed ATC, the agreed to sole owner of the project, in Column C. MTEP11, Appendix A, line 442, Column C. Xcel Energy interprets MISO's statement on page 9 of its Answer of the Midwest Independent Transmission System Operator, Inc., Docket No. ER12-24-000, (Feb. 28, 2012), as stating that Column C of Appendix A identifies only the designated owner of a particular project but not the percentage share of such project.

result of the MTEP process, or any other plan developed by MISO and its stakeholders" and consequently does not possess the authority to designate ownership.[48] ATC's Answer misses the point. The TOA and Tariff are structured to accommodate state authority over construction approvals and thus final ownership of a proposed transmission facility.[49] Both NSPW and ATC are Wisconsin corporations and have the ability to own and construct transmission facilities in portions of that state, subject to the appropriate approvals of the Public Service Commission of Wisconsin ("PSCW").[50]

However, state authority is immaterial to the instant contractual dispute. Because the TOA and the Tariff are Commission jurisdictional documents, it is for the Commission to decide the rights and obligations of NSPW and ATC under them. It would be a clear breach for ATC to ignore the TOA and take actions that fundamentally contradict the Tariff. Once NSPW's rights are adjudicated by the Commission, NSPW and ATC would, together, seek PSCW approval for the Project. While the PSCW will retain its authority to make a final decision regarding whether the Project meets the need requirements of Wisconsin law, and regarding the final route, both ATC and NSPW are contractually obligated to support MISO's designation under their Duty to Implement.

[48] ATC Answer at p. 25 (citing Request for Rehearing and Clarification of the Midwest Independent Transmission System Operator, Inc., Docket No. RM10-23-001 (Aug. 22, 2011)). Being wholly located in Wisconsin, the La Crosse – Madison Line is subject to Wisconsin law. Wisconsin law recognizes a role for MISO in transmission planning and construction. *See*, Wis. Stat. § 196.485(3)(a) (2011).

[49] The TOA explicitly recognizes MISO's authority to direct a TO to construct transmission facilities while deferring to state authority. TOA, Article Four, Section I.C. Further, the Duty to Implement is not absolute. If a particular TO designated by MISO as an owner of a project is prohibited by state law from owning transmission in a particular state or area they will be unable to implement such a project. This is why the Duty to Implement requires only good faith efforts. Further, when designating an entity to own and construct a particular project, MISO is required to take into account "input from participants." Tarriff, Attachment FF, Section V. Such input could include information relating to the legal ability for such an entity to own and construct a transmission facility in a particular place.

[50] It is unclear whether ATC may construct and own the entirety of the La Crosse – Madison Line. *See*, Wis. Stat. § 196.485(3m)(b)(1) (2011) (setting forth the areas in which a transmission company may construct facilities).

MISO appropriately fulfilled its obligations.[51] But instead of challenging MISO's designation at the Commission (in a dispute resolution procedure pursuant to the TOA and Tariff), ATC ignored MISO obligations and declared that it "will own the line."[52]

B. ATC's Policy Arguments Lack Merit

Xcel Energy's interpretation of the TOA and Tariff is fully consistent with past practice and Commission policy (as indicated by the MISO TO Comments).[53] ATC's Answer speculates that Xcel Energy's position would hinder the Commission's policy aims.[54] But the TOA has not impeded transmission development, and the MISO process is designed to account for non-TO third party input and allow third parties to construct and own facilities approved in an MTEP.

1. The Share Equally Provisions Do Not Impede Transmission Development

ATC asserts that the Share Equally Provisions would impede transmission investment.[55] But the cooperative and collaborative transmission planning and development process envisioned by the Share Equally Provisions have not impeded investment in new transmission facilities. Instead, implementation of these provisions has led to collaborative development in the MISO region.

XES and the NSP Companies have a long history of coordinated and cooperative transmission planning with neighboring transmission-owning utilities in MISO and the NSP Companies' predecessor regional planning entity, the Mid-Continent Area Power Pool ("MAPP"). As the Commission is aware, the NSP Companies are participants in the CapX2020

[51] Tariff, Attachment FF, Section V.

[52] ATC Answer, Exhibit 10; *see also*, Leslie Brooks Suzukamo, *Xcel Energy Wants to Share New Wisconsin Power Line*, St. Paul Pioneer Press, March 3, 2012; Judy Newman, *Xcel Wants in on Badger Coulee Line*, LaCrosse Tribune, March 2, 2012; Kerry Bleskan, *ATC Plans Response to Xcel Energy over Wis. Transmission Line Ownership*, SNL, February 23, 2012.

[53] *See generally*, MISO TO Comments.

[54] ATC Answer at pp. 20-24, 28-29.

[55] ATC Answer at pp. 18-29.

Initiative, where eleven regional entities have engaged in collaborative planning, permitting, engineering, development and construction of nearly 700 miles of new 345 kV and 230 kV transmission in Minnesota, Wisconsin, North Dakota and South Dakota at an expected cost of nearly $2 billion, with the NSP Companies investing nearly $1 billion.

In addition to CapX2020, the NSP Companies and neighboring utilities have also planned and invested many millions of dollars in lower voltage facilities over the past decade to improve reliability (such as the Chisago – Apple River 115/161 kV project, constructed collaboratively with Dairyland Power Cooperative and placed in service in 2011) or to enable development and delivery of additional generation resources. This history of collaboration in the CapX2020 Initiative and other projects demonstrate the TOA does not impede transmission development.[56]

In keeping with regional collaboration, and TOA terms and the Tariff obligations,[57] MISO has designated several MVPs as being jointly owned.[58] With the exception of lines involving ATC or its business partners,[59] these joint ownership designations have been without conflict. For example, the Big Stone – Ellendale MVP Project will connect Otter Tail Power Company's ("OTP") new Big Stone South Substation to Montana Dakota Utilities' ("MDU") Ellendale Substation. MISO has designated both OTP and MDU as owners of this project.[60]

---

[56] ATC complains that it was not permitted to actively participate in the CapX2020 Initiative. ATC Answer at p. 11, Exhibit 2 at P 10, Exhibit 3 at P 13. This assertion is belied by the efforts of the CapX2020 Initiative to collaborate with ATC. *See*, Affidavit of Douglas W. Jaeger at PP 11-15, provided as Attachment A ("Jaeger Affidavit"); Affidavit of William R. Kaul at PP 6, 9-12, provided as Attachment B ("Kaul Affidavit"). It appears ATC believes that collaboration with other utilities is a hurdle to its business aims. *See, e.g.*, ATC Answer, Exhibit 6 (identifying the need to work with other utilities as a "hurdle" to development of particular transmission projects). ATC's complaints about the CapX2020 Initiative are beside the point.

[57] MISO Tariff, Attachment FF, Section V.

[58] *See*, MISO MVP Fact Sheet, *available at*: https://www.misoenergy.org/Library/Repository/Communication%20Material/Power%20Up/MVP%20Benefits%20-%20Total%20Footprint.pdf; *see also*, MTEP11, Appendix A.

[59] *See*, Complaint of Pioneer Transmission, LLC Seeking Right to Construct Transmission Project Approved for Inclusion in the 2011 MISO Transmission Plan and to Implement Incentives Granted by the Commission (Request for Fast Track Processing), Docket No. EL12-24-000 (Feb. 8, 2012) ("Pioneer Complaint").

[60] MISO MVP Fact Sheet; MTEP11, Appendix A at line 193.

Similarly, MISO has also designated NSPM and OTP as owners of the Big Stone – Brookings MVP Project which will connect OTP's new Big Stone South Substation to NSPM's Brookings County Substation.[61] Neither NSPM nor OTP have contested their joint responsibilities and are working cooperatively to develop that project. In fact, OTP and MDU have jointly filed a Notice to Construct for the Big Stone – Ellendale MVP with the South Dakota Public Utilities Commission ("SDPUC")[62] and NSPM and OTP have jointly filed a Notice to Construct for the Big Stone – Brookings MVP with the SDPUC.[63] The joint development of these MVPs directly rebuts ATC's assertions.[64]

2. The Share Equally Provisions Do Not Preclude Third Party Ownership

ATC's Answer erroneously argues that Xcel Energy's position would preclude non-TO ownership of transmission facilities and consequently would act as an impermissible right of first refusal.[65] Consistent with Commission policy and orders,[66] both the TOA and the Tariff allow for non-TO third parties to develop transmission in the MISO region and Xcel Energy's interpretation of the Share Equally Provisions does not preclude such ownership.

---

[61] MISO MVP Fact Sheet; MTEP11, Appendix A at line 194.

[62] Letter from Ms. Tamie Aberle, Regulatory Affairs Manager, MDU, and Pete Beithon, Manager, Regulatory Recovery, OTP to Ms. Patricia Van Gerpen, South Dakota Public Utilities Commission (March 5, 2012), *available at*: http://puc.sd.gov/commission/dockets/electric/2012/informationalfilings/2012info07.pdf.

[63] Letter from Ms. Judy Poferl, President and CEO, NSPM, and Charles S. MacFarlane, President and CEO, OTP, to Ms. Patricia Van Gerpen, South Dakota Public Utilities Commission (Feb. 28, 2012), *available at*: http://puc.sd.gov/commission/dockets/electric/2012/informationalfilings/2012info06.pdf.

[64] In all, depending on how each individual project is identified, MISO has designated ten of the seventeen MVPs approved in MTEP11 as being jointly owned, including the La Crosse – Madison Line. MISO MVP Fact Sheet. Conflict over joint development responsibilities appears to primarily arise when one designated owner refuses to comply with its contractual obligations under the TOA and its responsibilities under the Tariff by refusing to mutually agree with other designated owner(s) on ownership arrangements. *See generally*, Pioneer Complaint.

[65] ATC Answer at pp. 20-24.

[66] *See generally*, *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, FERC Stats. & Regs. ¶ 31,241, *order on reh'g*, Order No. 890-A, FERC Stats. & Regs. ¶ 31,261 (2007), *order on reh'g*, Order No. 890-B, 123 FERC ¶ 61,299 (2008) *order on reh'g*, Order No. 890-C, 126 FERC ¶ 61,228 (2009), *order on reh'g*, Order No. 890-D, 129 FERC ¶ 61,126 (2009); *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, Order No. 1000, FERC Stats. & Regs. ¶ 31,323 (2011).

As described in the Complaint, the instant dispute is between two MISO TOs who are signatories to the TOA and are therefore bound by its terms and conditions as a matter of both law and contract.[67] The Commission need only enforce the plain terms of this contract to reach a reasonable outcome as between the two TOs in the instant dispute.

In contrast, a non-TO third party is not bound by the TOA, and the bargain struck by the Share Equally Provisions would not apply to that third party. It then falls to MISO to make an ownership designation of a non-TO third party based on the totality of the circumstances it must consider under Section V of Attachment FF of the Tariff. MISO's ownership designation obligations explicitly allow it to designate a non-TO third party as an owner of an MTEP approved transmission project. The TOA does not trump this authority.[68]

When making its ownership designation, the Tariff requires MISO to take into account the "applicable provisions of the ISO Agreement."[69] As relates to the instant dispute exclusively between two TO signatories to the TOA, this means the Share Equally Provisions. However, as it applies to a non-TO third party, Appendix B, Section VI provides: "Third-parties shall be permitted and are encouraged to participate in the financing, construction and ownership of new transmission facilities specified in the Midwest ISO Plan."

The Commission has specifically found this language sufficient to allow third party ownership.[70] Thus, MISO has ample authority to designate a non-TO third party as an owner of an MTEP approved project. If a TO or non-TO third party disagreed with MISO's ownership

[67] Complaint at pp. 24-25.

[68] TOA, Article Two, Section C ("[i]n the event of a conflict between this Agreement, including any appendices, and the Tariff, the Tariff shall prevail as the intent of the signatories").

[69] Tariff, Attachment FF, Section V.

[70] *Midwest Independent Transmission System Operator, Inc.*, 103 FERC ¶ 61,169 at P 50 (2003) ("we find that the revision proposed by Midwest ISO complies with our directive").

designation, it is always free to utilize MISO's dispute resolution procedures or bring a complaint to the Commission. However, ATC elected not to do so here.

The Tariff's Duty to Implement supports this interpretation, as it applies to whomever is designated as the owner.[71] This Tariff clearly contemplates that either TOs "affected" by a project, and therefore subject to the Share Equally Provisions, or some other designated non-TO third party would be designated as the owner of a particular MTEP project.

It is MISO's authority under the Tariff, not the TOA, that controls the designation of an entity to own and construct any particular MTEP approved project.[72] MISO has the flexibility to designate a non-TO third party as the responsible entity if circumstances warrant.[73] A requesting entity that is designated as an owner cannot refuse to proceed.[74]

3. Xcel Energy Seeks to Enforce the TOA and Tariff

The ATC Answer asserts that granting the relief requested by XES would force ATC to enter into a joint venture with NSPW; collaborative development in this instance need not result in a joint venture as ATC claims.[75] For example, ATC and NSPW could decide to share equally in the La Crosse – Madison Line by each owning a discrete portion of the Project and permitting and/or constructing such portions separately. Or they could identify portions of the Project that equate with equal financial investments between them. There are too many variations to list

[71] Tariff, Attachment FF, Section VI.C ("the affected Transmission Owner(s), or other designated entity(ies), shall make a good faith effort to design, certify, and build the designated facilities to fulfill the approved MTEP") (emphasis added).

[72] *See*, TOA, Article Two, Section C ("[i]n the event of a conflict between this Agreement, including any appendices, and the Tariff, the Tariff shall prevail as the intent of the signatories").

[73] Tariff, Attachment FF, Section V. Xcel Energy takes no position as to what circumstances would warrant ownership of an MTEP-approved project by a non-TO third party.

[74] Tariff, Attachment FF, Section VI.C; TOA, Appendix B, Section VI.

[75] ATC Answer at p. 30.

here. Utilities in the upper Midwest have engaged in such collaborative developments for decades.

That said, NSPW and ATC could certainly agree to develop, own, and maintain the Project jointly. The CapX2020 Initiative has successfully developed nearly 700 miles of 345/230 kV lines using this joint development approach. These arrangements have not unduly complicated the siting process, rate filings and cost allocations, nor have they made financing more difficult because of the participation of more than one entity.[76] XES is also unclear why ATC believes joint transmission development is a negative[77] when ATC itself has entered into significant joint venture arrangements for the development of new transmission projects.[78]

C. The Equities Support Xcel Energy

ATC's Answer claims that it would be inequitable for Xcel Energy to enforce the TOA.[79] Regardless of the details of the specific planning work that both Xcel Energy and ATC have done to further the La Crosse – Madison Line, the record makes clear that Xcel Energy and ATC

[76] The agreements documenting the ownership and construction responsibilities for the Bemidji Project and the first two phases of the Fargo Project have been accepted for filing by the Commission. *Xcel Energy Services Inc.*, Docket No. ER11-456-000, delegated letter order (Nov. 16, 2011); *Xcel Energy Services Inc.*, Docket No. ER11-4561, delegated letter order (Nov. 16, 2011); *Xcel Energy Services Inc.*, Docket No. ER11-4724-000, delegated letter order (Nov. 16, 2011). The utilities participating in the Brookings Project will file related construction and ownership agreements in the near future; and Twin Cities – La Crosse Project owners will file related construction and ownership agreements with the Commission upon entering into such agreements after state permits are issued.

[77] ATC intimates that any type of joint venture to develop the La Crosse – Madison Line would be somehow improper. ATC Answer at pp. 30-32. The support relied on by ATC is unpersuasive. *See*, ATC Answer at footnotes 55, 56. The cases upon which ATC relies relate to the entertainment industry, and are therefore outside the realm of the regulated utility context. Regardless, the cases do not support ATC's argument. *Broadcast Music v. Columbia Broadcasting Sys., Inc.*, 441 U.S. 1, 8, 23 (1979), focuses on antitrust violations concerning price fixing and mentions as an aside that "[j]oint ventures and other cooperative arrangements are . . . not usually unlawful." *NCAA v. Bd. of Regents*, 468 U.S. 85, 113-15 (1984), considered a marketing plan for collegiate football and merely observes that joint ventures are not immune from antitrust laws. *American Needle, Inc. v. NFL*, 130 S. Ct. 2201, 2207 (2010), involved a dispute premised upon whether "the NFL and its 32 teams [were], in the jargon of antitrust law, acting as a single entity" or as joint venturers. None of this precedent is remotely applicable to the instant issues or the mere possibility that Xcel Energy and ATC could choose to jointly develop the La Crosse – Madison Line as a way for them to meet their obligations to share equally.

[78] ATC and Duke Energy ("Duke") have entered into a joint venture to develop transmission. ATC Answer at pp. 29-30. As noted, this entity, Duke-American Transmission Company, LLC, has intervened and filed comments in this proceeding. *See generally*, Duke – ATC Comments.

[79] ATC Answer at pp. 32-35.

have both expended considerable time and effort in the planning of the Project. It would be inequitable to reward ATC for ignoring its TOA and Tariff contractual obligations.[80]

1. Enforce the Tariff

ATC characterizes Xcel Energy's Complaint as merely an attempt to "aggrandize [] earnings" by opportunistically interpreting the TOA in order to invest in an MVP subject to regional cost allocation.[81] However, the documents attached to ATC's Answer indicate that Xcel Energy expressed interest in the Project no later than 2009, well before the creation of the MVP methodology and more than a year before Xcel Energy knew if the Commission would approve the MVP tariff proposal (approved in December 2010),[82] and more than two years before the Project was actually approved as an MVP in December 2011 in MTEP11.

The MISO planning process and Commission policy assume a collaborative approach to transmission planning and development.[83] No TO should be able to disregard the TOA and the Tariff. ATC was fully aware of MISO's interpretation prior to Project approval of the MISO Board of Directors of MTEP11.[84] If it disagreed with MISO's interpretation and its planned designation, ATC was free to initiate dispute resolution under the MISO Tariff or bring a complaint to the Commission upon approval of MTEP11. ATC chose to do neither. Instead, it

[80] While the Commission has authority to grant equitable remedies, it does so sparingly. *See, e.g.*, *Sunoco, Inc. v. Transcon. Gas Pipe Line Corp.*, 111 FERC ¶ 61,400 at 62,672 (2005) (fashioning an equitable remedy for breach of a settlement agreement regarding violations of the Natural Gas Act to "preserve[] the benefit of the bargain each party obtained under the settlement"); *Trunkline Gas Co.*, 70 FERC ¶ 61,166 at 61,515 (1995) (recognizing the Commission's authority to craft an equitable remedy to correct its own legal error); *Gas Producing Enters.*, 28 FERC ¶ 61,008 at 61,012 (1984) (reasoning that restitution is a reasonable equitable remedy for violations of the Natural Gas Act). For example, in *City of Lebanon v. Cincinnati Gas & Elec. Co.*, 64 FERC ¶ 61,341 at 63,445 (1993), the Commission declined to exercise its equitable remedy authority where the "face of the contract" controlled the dispute.

[81] ATC Answer at p. 3.

[82] *Midwest Independent Transmission System Operator, Inc.*, 133 FERC ¶ 61,221 (2010).

[83] *See*, Tariff, Attachment FF; Order No. 1000.

[84] *See*, Complaint, Attachment I.

simply declared that it "will own the line."[85] Given the contradiction between ATC's position and the TOA and Tariff, Xcel Energy had no choice but to bring its Complaint.[86]

ATC posits that "Xcel Energy's participation is not needed to ensure the [La Crosse – Madison] line will be planned, financed and built by ATCLLC." But this is immaterial to the contractual/tariff obligations at hand. In addition, allowing ATC to disregard its TOA and Tariff obligations would act as a disincentive to collaborative behavior in the MISO region and beyond.

ATC points to the development and construction of the Monroe County – Council Creek 161 kV Project ("Monroe County Project") and the Arrowhead – Weston 345 kV Project ("Arrowhead Project") as examples of Xcel Energy not enforcing its duty to own and develop transmission projects because they were not subject to advantageous cost allocations. These projects are easily distinguishable.

The history of the Monroe County Project is nothing more than a classic example of TOs identifying a project upon which they "otherwise agree" to allocate the obligations of ownership in the MISO planning process.[87] Both NSPW and ATC, working through the MISO process, identified that this 161 kV load serving project would be more appropriately owned by ATC since the loads benefitting from the project are in the ATC zone, and both agreed that ownership

[85] ATC Answer, Exhibit 10; *see also*, Leslie Brooks Suzukamo, *Xcel Energy Wants to Share New Wisconsin Power Line*, St. Paul Pioneer Press, March 3, 2012; Judy Newman, *Xcel Wants in on Badger Coulee Line*, LaCrosse Tribune, March 2, 2012; Kerry Bleskan, *ATC Plans Response to Xcel Energy over Wis. Transmission Line Ownership*, SNL, February 23, 2012.

[86] ATC claims that NSPW's retail ratepayers will gain no benefit from NSPW's ownership of the La Crosse – Madison Line. ATC Answer, footnote 57. This is incorrect. NSPW's currently effective retail revenue requirement methodology includes a revenue credit for some transmission revenues collected by the NSP System under the MISO Tariff. This crediting mechanism would include Schedule 26 revenues paid to NSPW through MISO's Tariff for NSPW's ownership share in the La Crosse – Madison Line.

[87] *See*, Complaint at p. 33. As described in the Complaint, the Monroe County Project will connect NSPW's Monroe County Substation to ATC's Council Creek Substation. This is a local reliability project that was designed to provide load-serving support to an area of ATC's system in need of additional transmission infrastructure. Because NSPW's Monroe County Substation is near the far eastern edge of the NSPW system and the project will provide little load serving benefits to NSPW's customers, NSPW determined that it would be appropriate for ATC to construct and own this facility and ATC agreed. This facility has been approved by MISO through the MTEP process and MISO has designated ATC as the sole owner.

obligations will be borne by ATC as reflected in the MTEP11 ownership designation. This is not to say that if NSPW and ATC did not "otherwise agree" that NSPW would not have complied with its obligations to ATC to share equally in the Monroe County Project. If ATC disagreed with MISO's ownership designation for that project, it was free to challenge it.

As described in the Affidavit of Ms. Pamela Rasmussen, the history of the Arrowhead Project does not support ATC's claims.[88] First, the beginning of the Arrowhead Project predates both formation of MISO and ATC.[89] Therefore, its applicability to this case is, at best, strained.

Second, the pre-MISO development work included identification of owners and developers of the project, and the NSP Companies were never invited to own the project.[90] Neither of the NSP Companies own an endpoint of this project nor serve customers near them.[91] In addition, the original project plan granted a Certificate of Public Convenience and Necessity ("CPCN") by the PSCW in 2001[92] did not contemplate an interconnection to the NSPW transmission system. However, when it became clear the reliability of the Arrowhead Project would be improved by an intermediate high voltage transmission interconnection, Xcel Energy worked collaboratively with ATC and other neighboring TOs to achieve this outcome. Upon

[88] Affidavit of Pamela Jo Rasmussen at PP 5-12, provided as Attachment C ("Rasmussen Affidavit"). The Arrowhead Project is an approximately 220 mile, 345 kV transmission line from the Minnesota Power ("MP") Arrowhead Substation in northeast Minnesota to the ATC Weston Substation near Wausau, Wisconsin.

[89] *Id*. at PP 4.

[90] *Id*. at PP 6, 8.

[91] As originally conceived, the Arrowhead Project was to be a continuous, unbroken transmission line from these two end-points. Rasmussen Affidavit at P 4. However, as the development process was advanced, an intermediate support facilities, a 345 kV transformer, at NSPW's existing Stone Lake Substation was recommended to be installed. This new facility was constructed by ATC with ownership subsequently transferred to NSPW. *Id*. at PP 8-10. Later, ATC was designated by MISO as the owner of the transformer in NSPW's Stone Lake Substation that would support the Arrowhead Project. MTEP05 at p. 167.

[92] *Joint Application of Minnesota Power Company and Wisconsin Public Service Corporation for Authority to Construct and Place in Service Electric Transmission Lines and Other Electric Facilities for the Arrowhead – Weston Project, Located in St. Louis County in Minnesota, and Chippewa, Clark, Douglas, Lincoln, Marathon, Oneida, Price, Rusk, Sawyer, Taylor, and Washburn Counties in Wisconsin*, Final Decision, PSCW Docket 05-CE-113 (October 30, 2001).

request by ATC and its constituents, NSPW collaborated in the construction of a new 345 kV tap at NSPW's existing Stone Lake Substation.[93] Xcel Energy did not, however, presume to claim an ownership stake for NSPW just by the after-the-fact development of this previously unplanned intermediate interconnection facility. Xcel Energy otherwise accepted that the Arrowhead Project belonged to other TOs.

Third, by the time that both MISO and ATC were formed, and the Arrowhead Project was included in the 2005 MTEP ("MTEP05"), ATC was designated owner of the project by MISO.[94] As such, the Arrowhead project followed the process contemplated by the TOA and Tariff.

2. Xcel Energy Diligently Sought to Enforce its Rights

ATC argues that "[t]he Commission should not grant Xcel Energy any relief because it has done nothing to warrant an ownership share of Badger Coulee,[95] and if it had an entitlement, it should have exercised that entitlement long before now and any assertion of the right now

[93] Rasmussen Affidavit at PP 9. NSPW's involvement in the Arrowhead Project is illustrative of Xcel Energy's understanding of how the Share Equally Provisions would work today when a project is modified from its original configuration. As demonstrated, MISO maintains final authority to designate ownership of an MTEP approved project as informed by the Share Equally Provisions. Xcel Energy believes this ownership designation is binding unless successfully challenged. This ownership designation provides certainty as to the rights and obligations of a TO (or non-TO third party) that the resources it expends in development of an MTEP approved project will be done so prudently. Therefore, if engineering analysis or the state permitting process require that the ultimate configuration of an MTEP approved project needs to be modified, Xcel Energy does not believe that this would re-open MISO's ownership designation. So, if, for example, an intermediate substation is required to be built, this fact should not alter MISO's ownership designation, no matter who owns such intermediate substation.

This is exactly the scenario of the Arrowhead Project. The utilities who developed the project originally designed an unbroken 345 kV transmission line with two endpoints. As development progressed, it was determined that an intermediate tap was necessary to support the project. NSPW accommodated this tap at its existing Stone Lake Substation and did so willingly in keeping with the history of collaborative transmission development in the region. However, the fact of this new, intermediate, facility does not alter the fundamental rights of the utilities who developed the Arrowhead Project, or the MISO ownership designation.

[94] *Id.* at PP 10; *see also*, Midwest Independent Transmission Operator, Inc., MTEP05, at p. 167, *available at* https://www.midwestiso.org/Library/Repository/Study/MTEP/MTEP05/MTEP05%20Report.pdf.

[95] Xcel Energy wishes to make clear that it seeks to enforce ATC's obligation only for the La Crosse – Madison Line – the segment from NSPW's Briggs Road Substation to ATC's North Madison Substation. MTEP11 approved a 345 kV line from Briggs Road to North Madison and referred to the Project as "North La Crosse – North Madison." The La Crosse – Madison Line is one segment of what ATC calls the Badger Coulee Project. Xcel Energy makes no claim on any other segment of the so-called Badger Coulee Project.

should be barred by the Commission in the exercise of its discretion."[96] This is incorrect. Xcel Energy diligently assisted in planning the Project for more than a decade and pursued its rights and has brought its Complaint when the dispute was ripe. The documents in the record make this clear and even ATC's documents support this view.

As the Affidavit of Ms. Flora Flygt provides, Xcel Energy (and its CapX2020 partners) had indicated that "CapX would like to own part of the Badger Coulee line" as early as mid-2009.[97] This was well before MISO had developed the cost allocation methodology applicable to MVPs,[98] the Commission approved that methodology,[99] or MISO announced that the La Crosse – Madison Line could be eligible for being designated as an MVP.[100]

By October of 2010, it became clear that ATC had no interest in collaborating in the development of the Project and that it was refusing to comply with its TOA contractual obligations.[101] Nevertheless, in November of 2010, executives of XES contacted executives of ATC to indicate NSPW's continued interest in collaborating on the La Crosse – Madison Line.[102] Additional communications occurred in June 2011, July 2011, and August 2011.[103] Recognizing MISO's role in the development process, Xcel Energy also worked closely with MISO for almost a year with communications in February, August, September, and October of 2011.[104]

---

[96] ATC Answer at p. 34.

[97] ATC Answer, Exhibit 3 at P 10.

[98] Midwest Independent Transmission System Operator, Inc., et al. Submits Proposed Revisions to Their ISO Open Access Transmission, Energy and Operating Reserve Markets Tariff, Docket ER10-1791-000 (July 15, 2010).

[99] *Midwest Independent Transmission System Operator, Inc.*, 133 FERC ¶ 61,221 (2010).

[100] MTEP11, Appendix A.

[101] Complaint, Attachment A at P 6.

[102] *Id.*

[103] *Id.* at PP 8,10, 12.

[104] *Id.* at PP 7, 14, 16-18.

On December 8, 2011, the MISO Board of Directors approved MTEP11, approved the La Crosse – Madison Line as an MVP, and approved MISO's designation of NSPW and ATC as owners of the Project.[105] Upon approval of MTEP11, the instant dispute became ripe because (a) MISO has fulfilled its obligation to designate ownership of the La Crosse – Madison Line; (b) NSPW's and ATC's Duty to Implement had been triggered; and (c) the La Crosse – Madison Line will now be assumed to built and modeled in subsequent MTEPs.

Xcel Energy continued to try to reach an amicable arrangement with ATC after the approval of MTEP11. Xcel Energy contacted ATC in December of 2011[106] and executives of both Xcel Energy and ATC met in person in January 2012.[107] Unfortunately, these efforts were to no avail and on February 7, 2012, ATC sent a letter to Xcel Energy making it perfectly clear that ATC had no interest in cooperating.[108] This record establishes that Xcel Energy did everything it could to reach a negotiated resolution and acted promptly at every turn.[109]

Rather than acknowledging that MISO's Tariff obligations, ATC characterizes MISO's actions as "tak[ing an] ownership interest away from one entity to give to another."[110] ATC relies on its work to date to support its assumed right to own the Project.[111] This is unavailing.

As a prudent utility, Xcel Energy does not develop transmission projects prematurely but instead relies on MISO's MTEP ownership designation to give it certainty that the shift from planning to development and permitting (and the time and expense that development entails) will

[105] *Id*. at P 20.

[106] *Id.* at P 21.

[107] *Id*. at P 22.

[108] *Id.* at P 22, Schedule 4.

[109] Xcel Energy generally supports resolving disputes through the MISO dispute resolution procedures contained in Attachment HH of the MISO Tariff. However, ATC has explicitly disclaimed the applicability of these procedures to the instant dispute. Complaint, Attachment J at p. 9.

[110] ATC Answer at p. 24.

[111] *See*, ATC Answer at p. 8.

result in a project that is needed by its stakeholders and is prudent to proceed beyond planning. MISO's ownership designation in MTEP11 in December 2011 provides sufficient time for the La Crosse – Madison Line to be permitted and constructed to meet the expected 2018 in-service date. In fact, Xcel Energy would be beginning is development work on the Project at around this time if it were developing its share of the La Crosse – Madison Line on its own.[112]

Rather than cementing its claim to ownership of the La Crosse – Madison Line, ATC's premature development efforts, commenced well before the Project was approved in Appendix A of MTEP11 and MISO's ownership designation, could be viewed as a cynical attempt to prejudge ownership notwithstanding ATC's TOA and Tariff obligations. Holding open houses,[113] rebranding the Project from the name used in MTEP,[114] opening a placeholder docket at the PSCW,[115] and publicly claiming the Project[116] months before the project was even determined to be needed by MISO in MTEP11 appear to be nothing more than an attempt to create a *fait accompli* of ATC ownership by bypassing the TOA and Tariff procedures. This approach[117] was a gamble that such tactics would be fruitful. It should not be rewarded.

In addition to relying on its premature development efforts, ATC claims that the La Crosse – Madison Line will be "predominately located within ATCLLC's own service area."[118] This statement is demonstrably not true. Depending on the ultimate route approved by the PSCW, approximately 60 miles of the planned 145-mile long Project will be located within

[112] Rasmussen Affidavit at P 17.

[113] ATC Answer at p. 8, Exhibit 3 at P 5.

[114] For ease of use, Xcel Energy dropped the word "North" from the name of the Project used in the MTEP: "North La Crosse – North Madison."

[115] ATC Answer at p. 8.

[116] ATC Answer at p. 10.

[117] ATC Answer at p. 8. Xcel Energy has committed that it will share in the development expenses of the La Crosse – Madison Line incurred to date as part of its obligation to share equally in the Project. Complaint, Attachment L.

[118] ATC Answer at p. 5.

NSPW's traditional retail service area, which roughly corresponds to NSPW's local balancing authority area. This means that approximately 40% of the Project will be located in areas traditionally served by NSPW and for whose reliability NSPW is responsible.

ATC's statement that the "planning for the Badger Coulee line arose from ATCLLC's own Commission-approved local planning process" is equally unavailing. The record reflects that the conceptual framework for the La Crosse – Madison Line pre-dates the formation of ATC.[119] Xcel Energy does not dispute that the Project was ultimately refined in the Western Wisconsin Transmission Reliability Study, which was labeled by ATC as developed under its local planning process under Attachment FF-ATCLLC of the Tariff.[120] But this fact is immaterial. ATC's separate local planning process provides inputs into MISO's planning work but does not provide some type of "sponsorship" rights for any particular project.[121] And, the Tariff explicitly applies the terms of the TOA to projects proposed through ATC's local planning process.[122]

D. ATC's Requested Alternative Relief Should Be Rejected

ATC asks that if the Commission agrees that ATC breached its contract, the Commission should grant ATC rights to share in the Brookings Project and the Twin Cities – La Crosse

[119] Complaint, Attachment B at P 9; ATC Answer, Exhibit 2 at P 6.

[120] Complaint, Attachment B at P 27, Attachment G at cover page.

[121] Complaint at pp. 34-35.

[122] Tariff, Attachment FF-ATCLLC, Sections VI.A.8; VI.B.7; VI.C.1; VI.D.10; VI.E.7. ATC is one of two TOs with separate local planning processes. Tariff, Attachment FF-5. In accord with the collaborative planning approach contemplated in the TOA, the majority of TOs have incorporated their local planning processes into the overall MISO planning process. Tariff, Attachment FF-4. A Commission finding that the mere fact that the La Crosse – Madison Line was partly refined in ATC's local planning process would disincentive the majority of MISO TOs to continue to collaborate on their local planning in the larger MISO planning process in the mere hope that a regional beneficial project would materialize and they could claim ownership of it. The MISO planning process does not have a "sponsorship model" of ownership, instead it defers to the Share Equally Provisions and MISO's ownership designation obligations.

Project as these facilities will "ultimately" interconnect with ATC's North Madison Substation.[123] The logic behind this request is wholly unsupported and should be rejected.

The Share Equally Provisions provide, in part, that "Ownership and the responsibility to construct facilities which are connected between two (2) or more Owners' facilities belong equally to each Owner…."[124] The TOA term "facilities" has a plain meaning – it means directly connecting to a substation or line owned by another entity.[125]

The La Crosse – Madison Line is a project that connects to the facilities of NSPW and ATC. While it is part of the larger planned MVP series of separate facilities, the Project only directly connects the facilities of these two entities. The Project then extends on to ATC's Cardinal Substation.[126] Notably Xcel Energy makes no claim on the portion of this MVP beyond ATC's North Madison Substation to ATC's Cardinal Substation as the TOA mandates that ownership for this facility belongs to ATC.[127]

"Facilities" are not "all of the transmission lines that interconnect with its existing facilities" as ATC claims.[128] No reading of the TOA can support this outcome. The certainty needed to commence development of any particular project (and in accordance with a TO's Duty to Implement) would never exist if, at some very distant future point in time, a new line would be

[123] ATC Answer at pp. 35-37.

[124] TOA, Appendix B, Section VI (emphasis added).

[125] The La Crosse – Madison Line is not planned to have any intermediate substation or any other breaks in the single 345 kV circuit. MTEP11, Appendix A at line 142.

[126] MTEP11, Appendix A at line 142.

[127] TOA, Appendix B, Section VI "ownership and the responsibility to construct facilities which are connected to a single Owner's system belong to that Owner." If only a single TO is affected, the responsibilities to construct facilities connected to its "system" are implicated where as if two TOs are affected the responsibility to construct facilities which connect "their facilities" are implicated. The other segments of Badger-Coulee do not connect to NSPM or NSPW facilities; thus the TOA Share Equally Provisions do not apply to those facilities.

[128] ATC Answer at p. 36.

planned to connect to a TO's facilities and the TO would then need to divest itself of ownership of its current and planned facilities.

MISO plans the regional transmission system on an incremental basis. Needs are identified and projects proposed to meet those needs. Projects are then developed and constructed as per MISO's MTEP plan. A subsequent project proposed to meet a later identified need could then connect the facilities of two (or more) TOs. It would be this later proposed project, or portion thereof, to which the Share Equally Provisions would apply, not to every single transmission facility that is ultimately "connected" to the newly approved project.

This interpretation also supports Xcel Energy's interest in fulfilling its obligation to construct and own the La Crosse – Madison Line notwithstanding the fact that the facility to which the Project will connect (the Twin Cities – La Crosse Project) is currently being permitted by the PSCW but is not yet built. Much like MISO's subsequent planning cycles assume previously approved projects in the planning models, the Share Equally Provisions must assume previously approved projects when determining which facilities will connect; any other meaning would lead to an absurd result.[129]

A close reading of the Share Equally Provisions shows that it is the specific substation or line of a particular TO and not the "system" that is relevant to the share equally analysis (while it is a "system" based analysis that is relevant for single TO ownership or ownership of facilities that connect outside of the MISO footprint).[130] If a facility is approved by MISO and planned to connect to facilities approved in previous planning cycles, ownership for the previously

[129] *See, e.g.*, *Boston Edison Co.*, 58 F.P.C. 5, 8 (1977) (refusing to interpret a contract in a manner that would lead to "an absurd result which would vitiate the Supreme Court's intention to preserve the integrity of contracts").

[130] *See*, *supra*, footnote 128.

approved facility has already been designated by MISO so ownership for this proposed facility is already known making the application of the Share Equally Provisions possible.

The Big Stone – Brookings MVP is a good example. The Brookings County Substation is an existing NSPM facility and the new Big Stone South Substation will be an OTP facility. NSPM and OTP are jointly developing this project as it connects their facilities. Importantly, an additional MVP, the Big Stone – Ellendale MVP will extend from OTP's proposed new substation to MDU's existing Ellendale Substation. OTP and MDU are jointly developing that project and NSPM made no claim on it, even though it ultimately connects to NSPM facilities.

In any event, ATC's requested alternative relief is not timely. The Twin Cities – La Crosse Project was approved in MTEP08 and ownership was designated by MISO at that time.[131] If ATC was interested in claiming an ownership stake in that project it should have done so then or filed a complaint against MISO at that time. And ATC had the opportunity to invest. The CapX2020 utilities discussed ATC's participation, but ATC chose not to invest the resources necessary to participate.[132] And ATC gave no prior indication of any interest in the Brookings Project, which is not surprising since that project is separated from ATC's facilities by 150 miles.

IV. ADDITIONAL DOCUMENTS

In support of this Answer, XES provides the following documents:

- Attachment A: Affidavit of Mr. Douglas W. Jaeger;
- Attachment B: Affidavit of Mr. William R. Kaul; and
- Attachment C: Affidavit of Ms. Pamela Jo Rasmussen.

[131] Midwest Independent Transmission Operator, Inc., MISO Transmission Expansion Plan 2008, Appendix A at p. 36, *available at* https://www.midwestiso.org/Library/Repository/Study/MTEP/MTEP08/MTEP08%20Report.pdf.

[132] Jaeger Affidavit at P 14.

V. CONCLUSION

This Answer clarifies the issues before the Commission, corrects the record, and will assist the Commission in its decision. XES respectfully requests that the Commission accept this Answer and grant the relief requested in the Complaint.

Respectfully Submitted,

Dated: March 20, 2012

/s/ Michael C. Krikava
Michael C. Krikava
Zeviel Simpser
Briggs and Morgan, P.A.
2200 IDS Center
80 South 8th Street
Minneapolis, MN 55402
(612) 977-8400
mkrikava@briggs.com
zsimpser@briggs.com

James P. Johnson
Assistant General Counsel
Xcel Energy Services Inc.
414 Nicollet Mall – 5th Floor
Minneapolis, MN 55401
James.p.johnson@xcelenergy.com

ATTORNEYS FOR XCEL ENERGY SERVICES INC.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 20th day of March, 2012, I have served the foregoing document on all affected parties in accordance with the requirements of the Commission's Rules of Practice and Procedure.

/s/ Zeviel T. Simpser
Zeviel T. Simpser

ATTACHMENT A

AFFIDAVIT OF DOUGLAS W. JAEGER

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Xcel Energy Services Inc.	)	**Docket No. EL12-28-000**
	)	
and	)	
	)	
Northern States Power Company, a Wisconsin corporation	)	
	)	
Complainants	)	
	)	
v.	)	
	)	
American Transmission Company, LLC	)	
	)	
Respondent	)	
	)	

AFFIDAVIT OF DOUGLAS W. JAEGER

STATE OF MINNESOTA)
) ss
COUNTY OF HENNEPIN)

Douglas W. Jaeger, under oath, states:

1. My name is Douglas W. Jaeger. I am currently Chief Executive Officer of Adolfson & Peterson Construction ("A&P"), 6701 West 23rd Street, Minneapolis, MN 55426. I have held this position since 2008.

2. Immediately prior to joining A&P, I was Vice President, Transmission, for Xcel Energy Services Inc. ("XES"), the service company subsidiary of Xcel Energy Inc.

3. I am providing this affidavit in support of the complaint ("Complaint") filed by XES and its utility operating company affiliate, Northern States Power Company, a Wisconsin corporation ("NSPW"), against American Transmission Company, LLC ("ATC") in the above captioned proceeding.

4. My affidavit responds to statements by Mr. Dale Landgren, a former ATC employee, in his affidavit attached to the ATC Answer to the Complaint, filed March 5, 2012. I am specifically responding to those statements asserting that Xcel Energy and other regional utilities refused to allow ATC to participate in the CapX2020 regional transmission initiative, in which I played a leading role while at XES.

5. While Vice President, Transmission at XES, I was directly responsible for all of the transmission related activities of the Xcel Energy Operating Companies, and in particular was responsible for the transmission activities of NSPW and Northern States Power Company, a Minnesota corporation ("NSPM" and together with NSPW, the "NSP Companies").

6. During my employment with XES, I was actively involved with the development of regional transmission infrastructure improvements in Minnesota, Wisconsin and the Dakotas. One of my primary responsibilities at XES was to oversee development of collaborative joint transmission solutions for this region. In that role, I worked directly with the transmission leadership from many utilities and transmission organizations in the upper Midwest region, including ATC.

7. During my tenure at XES, I was charged with developing the joint transmission development group now known as "CapX2020." I spent a substantial proportion of my time working directly with transmission entities in the region, including ATC, for the purpose of building a coalition that would be available to invest in needed transmission infrastructure improvements throughout the region.

8. The CapX2020 initiative began in earnest in 2004 as XES began working with Great River Energy ("GRE"), a generation and transmission cooperative, on ideas for possible regional transmission infrastructure improvements. GRE and XES began working with Minnesota Power and Otter Tail Power Company in informal discussions around whether a joint development model could be implemented to collaboratively plan and develop regional solutions for transmission construction to meet the needs of utilities serving Minnesota, western Wisconsin, and eastern North Dakota and South Dakota. These four companies were the original participants in what ultimately came to be known as CapX2020.

9. At some point in 2006, the four utilities decided to explore whether other entities in the region might be interested in participating with the CapX2020 initiative. Several companies approached us with an interest in participating in joint transmission development projects. Ultimately, the CapX2020 group grew from the original four members to a total of 11 companies, including: Central Minnesota Municipal Power Authority, Dairyland Power Cooperative, Rochester Public Utilities, Southern Minnesota Municipal Power Authority, Minnkota Power Cooperative, Missouri River Energy Services, and Wisconsin Public Power Inc. ("WPPI").

10. The other CapX2020 participants include municipal power agencies and cooperatives serving loads in the four state area. Notably, membership in CapX2020 includes WPPI, an eastern Wisconsin public power entity that is also a member of ATC. I understand further that Minnesota Power is a member of ATC.

11. During that same timeframe, we had discussions with ATC on the topic of whether ATC would be interested in engaging with the CapX2020 group. Mr.

Dale Landgren attended CapX2020 meetings and held discussions about ATC's potential participation.

12. As the CapX2020 group began to coalesce, it became clear that the participants would each be required to contribute significant time and resources to develop the regional and specific planning studies to support the initiative. As a leading participant in the CapX2020 initiative, I directed XES's transmission planning staff and I instructed them to participate fully in the initiative and to provide resources necessary to complete studies and develop projects. The leadership of the other entities who joined CapX2020 also made a significant commitment to the effort and made available significant personnel and resources to the effort.

13. The need for a significant financial contribution from all CapX2020 members developed over time and was a subject of extensive negotiations amongst the companies interested in participating. The companies that became members of the CapX2020 initiative were those that ultimately agreed to bear their fair share of the costs of the initiative.

14. During this commitment period, ATC determined that they did not have ample staff resources to fully participate in the CapX2020 transmission planning efforts. At some point subsequent to that decision, ATC's management stopped participating in meetings and never agreed to commit financial or other resources toward the CapX2020 effort.

15. At no time during my employment at XES did I ever refuse to allow ATC to participate in the CapX2020 initiative. I never discouraged ATC's participation, and I personally was involved in discussions in which ATC was given the opportunity to make a financial and resource commitment to the group and to participate. I never gave instructions to any of my subordinates to exclude or discourage ATC from participating in the group if ATC desired. So far as I know, no other CapX2020 participant ever excluded ATC or discouraged ATC from any meeting or other participation.

Further, Affiant sayeth not.

Douglas W. Jaeger

Subscribed and sworn to before me
this 14 day of March, 2012

Notary Public

4530820v3

LORIEJEAN EAKER
NOTARY PUBLIC - MINNESOTA
My Commission Expires Jan. 31, 2015

ATTACHMENT B

AFFIDAVIT OF WILLIAM R. KAUL

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Xcel Energy Services Inc.	)	**Docket No. EL12-28-000**
	)	
and	)	
	)	
Northern States Power Company, a Wisconsin corporation	)	
	)	
Complainants	)	
	)	
v.	)	
	)	
American Transmission Company, LLC	)	
	)	
Respondent	)	
	)	

AFFIDAVIT OF WILLIAM R. KAUL

STATE OF MINNESOTA)
) ss
COUNTY OF HENNEPIN)

William R. Kaul, under oath, states:

1. My name is William R. Kaul. I am Vice President, Transmission, for Great River Energy ("GRE"), a generation and transmission cooperative. I have held that position for over 10 years. My business address is 12300 Elm Creek Boulevard, Maple Grove, MN 55369.

2. I am providing this affidavit in support of the complaint ("Complaint") filed by Xcel Energy Services Inc. ("XES") and its utility operating company affiliate, Northern States Power Company, a Wisconsin corporation ("NSPW"), against American Transmission Company, LLC ("ATC") in the above captioned proceeding.

3. My affidavit discusses my participation in the CapX2020 regional transmission initiative, including NSPW and its sister company Northern States Power Company, Minnesota ("NSPM") and other regional entities' involvement and contact with the CapX2020 group. In my affidavit, I refer to XES, NSPW and NSPM collectively as "Xcel Energy".

4. I am directly responsible for all of the transmission related activities of Great River Energy, and in particular am responsible for coordinating transmission activities among Great River Energy and its neighboring electric utilities, such as Xcel Energy.

5. I have been actively involved with the development of regional transmission infrastructure improvements in Minnesota, North Dakota and South Dakota and surrounding states. One of my primary responsibilities at Great River Energy is to oversee development of collaborative transmission solutions for this region. In that role, I work directly with the transmission leadership from many utilities and transmission organizations in the upper Midwest region, including ATC.

6. For the past decade, I have spent a substantial proportion of my time working directly with transmission entities in the region, including ATC, for the purpose of building a coalition that would invest in needed transmission infrastructure improvements throughout the region to meet anticipated load growth and comply with reliability standards. My work and the work of other regional transmission leaders resulted in the formation of the transmission initiative now known as Capx2020. I have played a leading role in CapX2020 from its inception.

7. The CapX2020 initiative began in earnest in 2004 as I began working with Doug Jaeger, then Vice President, Transmission at Xcel Energy on ideas for possible regional transmission infrastructure improvements. Great River Energy and Xcel Energy began working with Minnesota Power and Otter Tail Power Company in informal discussions around whether a joint development model could be implemented to collaboratively plan and develop regional transmission solutions to meet the needs of load serving entities serving Minnesota, eastern North Dakota and South Dakota, and western Wisconsin. These four companies were the original participants in what ultimately came to be known as CapX2020, shorthand for "Capacity Expansion by 2020".

8. At some point in 2005, the four utilities decided to explore whether other entities in the region might be interested in participating with the CapX2020 initiative. By January of 2006 the following additional members were added to the original four members to a total of eleven (11) entities, including: Central Minnesota Municipal Power Authority, Dairyland Power Cooperative, Rochester Public Utilities, Southern Minnesota Municipal Power Authority, Minnkota Power Cooperative, Missouri River Energy Services, and Wisconsin Public Power Inc. ("WPPI"). These entities include both cooperatives and municipal power agencies who serve loads within or near the systems of the original four CapX2020 participants.

9. In this same timeframe, I recall traveling to the Public Service Commission of Wisconsin ("PSCW") with an employee of Xcel Energy for the purpose of apprising PSCW Staff of future projects and giving a presentation to the Staff about CapX2020. The presentation was on the topic of the collaborative nature of the CapX organization and its vision for grid expansion. On the way back from Madison, we made a stop to make the same presentation to ATC. I recall that more than 20 ATC personnel were in attendance. That presentation was informational in nature.

10. Around 2008-09, Mr. Dale Landgren of ATC attended meetings with various members of the CapX2020 group to discuss collaboration and joint planning for

future expansion opportunities. These meetings were jointly sponsored by ATC and the CapX2020 utilities.

11. I remember at that point in time, I attended a meeting in Minneapolis, Minnesota at a restaurant. Mr. Landgren of ATC also attended. Representatives of the CapX2020 group discussed collaboration on the La Crosse – Madison Project, which was anticipated as a potential project to be considered after the initial four CapX2020 "Group 1" projects, as well as opportunities to work together on other projects.

12. I also recall multiple conversations with ATC's John Procario on the subject of ATC joining the WIRES trade association group. I was the president of WIRES at the time I spoke with John Procario. Ultimately ATC joined that group and is an active participant.

13. As the CapX2020 group began to coalesce, it became clear that the participants would each be required to contribute significant time and resources to develop the regional and specific planning studies to support the initiative. As a leading participant in the CapX2020 initiative, I directed Great River Energy's transmission planning staff and I instructed them to participate fully in the initiative and to provide resources necessary to complete studies and develop projects. The leaders of the other entities who joined CapX2020 also made a significant commitment to the effort and made available significant personnel and resources to the effort.

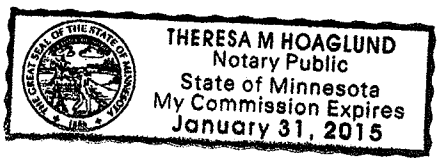
14. At no time during my employment at Great River Energy have I ever refused to allow ATC to participate in the CapX2020 initiative. I never discouraged ATC's participation. I never gave instructions to any of my subordinates to exclude or discourage ATC from participating in the group if ATC desired. So far as I know, no other CapX2020 participant ever excluded ATC or discouraged ATC from any meeting or other participation.

Further, Affiant sayeth not.

William R. Kaul

Subscribed and sworn to before me
this 19th day of March, 2012

Theresa M Hoaglund
Notary Public



ATTACHMENT C

AFFIDAVIT OF PAMELA JO RASMUSSEN

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Xcel Energy Services Inc.	)	
	)	
and	)	**Docket No. EL12-28-000**
	)	
Northern States Power Company, a Wisconsin corporation	)	
	)	
Complainants	)	
	)	
v.	)	
	)	
American Transmission Company, LLC	)	
	)	
Respondent	)	
	)	

AFFIDAVIT OF PAMELA JO RASMUSSEN

STATE OF MINNESOTA)
) ss
COUNTY OF HENNEPIN)

I, Pamela Jo Rasmussen, under oath, state:

Introductory Information

1. My name is Pamela Jo Rasmussen and I am Manager, Siting and Land Rights, Xcel Energy Services Inc. ("XES"). In this position I supervise, among other things, land acquisition and permitting activities for new electric transmission facilities being developed by Northern States Power Company, a Wisconsin corporation ("NSPW"), and Northern States Power Company, a Minnesota corporation ("NSPM" and together with NSPW, the "NSP Companies"). My business address is 1414 West Hamilton Avenue, Post Office Box 8, Eau Claire, Wisconsin 54702-0008.

2. Prior to taking my current position in 2008, I was employed as Supervisor, Siting and Permitting, with XES. Since 1989, I have worked for XES in the land rights, regulatory compliance, and environmental and permitting areas of the company. My curriculum vitae is attached as Schedule 1.

3. I am testifying on behalf of XES and NSPW (together, "Xcel Energy") in this proceeding. My testimony has two purposes: (a) First, I provide information related to the development of the Arrowhead – Weston 345 kV transmission line (the "Arrowhead Project" or the "Arrowhead – Weston Project") to respond to certain statements in the Answer of American Transmission Company LLC's ("ATC") to the Complaint. In my

prior positions at XES and NSPW prior to the merger that created Xcel Energy Inc., I was one of the people representing NSPW in the planning discussions leading to the development of the Arrowhead Project. (b) Second, I discuss Xcel Energy's permitting work for the 345 kV transmission line from NSPW's Briggs Road Substation to ATC's North Madison Substation (the "La Crosse – Madison Line" of the "Projects"). In my current position I would be responsible for NSPW's permitting and land acquisition efforts for the La Crosse – Madison Line.

Development of the Arrowhead – Weston Project

4. The Arrowhead-Weston Project is a 220 mile long 345 kV transmission line from near Duluth, Minnesota to Wausau, Wisconsin. It connects Minnesota Power's Arrowhead Substation to ATC's Weston Substation. NSPW's Stone Lake Substation ultimately became an intermediate substation on this transmission line but was not part of the original plans as described below. The Arrowhead Project was intended to provide a new transmission path between Minnesota and Wisconsin utilities independent of a connection to the NSP Companies, as well as create an additional connection between two important legacy reliability regions in the upper-Midwest. Various forms of the Arrowhead Project were planned and pursued since the late 1980s, and the Arrowhead-Weston 345 kV transmission line was ultimately placed in service in 2007.

5. In the early 1990s, the Public Service Commission of Wisconsin ("PSCW") denied a form of the Arrowhead – Weston Project from proceeding from the state planning process, known as the Advance Plan, to the Certificate of Public Convenience and Necessity ("CPCN") process. Additional planning and analysis for the Arrowhead Project began in earnest in the late 1990s after the elimination of the Advance Plan process in Wisconsin. Building off of the study efforts that culminated in the Phase II of the Wisconsin Interface Reliability Enhancement Study ("WIRES Phase II," provided as Attachment D to the February 14, 2012 Complaint), the 1999 Report of the Wisconsin Reliability Assessment Organization ("WRAO") on Transmission System Reinforcement in Wisconsin ("WRAO Report") recommended that the Arrowhead Project be built to provide a new interconnection between the historic Mid-continent Area Power Pool ("MAPP") and Mid-American Interconnected Area ("MAIN") reliability regions as well as to remove certain constraints. I led the development of the environmental review section. The WRAO Report is provided as Schedule 2 to this Affidavit.

6. Halfway through the WIRES Phase II transmission planning study work, Minnesota Power ("MP") and Wisconsin Public Service Corp. ("WPS") announced that they would develop and own the Arrowhead Project. MP and WPS began the siting and permitting work for the Arrowhead Project. A CPCN application for the project was filed with the PSCW in 1999 by WPS and MP.

7. After the formation of ATC in 2001, and the transfer of all WPS transmission assets to ATC, development of the Arrowhead Project transferred to ATC.

8. The 345 kV connection at Stone Lake was not was not part of the original design for the Arrowhead Project nor contemplated by any of the planning analyses was available when

discussions among the affected parties were occurring regarding development and ownership of the Arrowhead Project. The CPCN application also did not contemplate any interconnection with the NSPW transmission system. As development of the Arrowhead Project continued, however, the project developers determined a need for a temporary 345/161 kV connection to NSPW's existing 161/69 kV Stone Lake Substation to assist with construction of the Arrowhead Project. The Stone Lake Substation is a key facility to provide load serving support for NSPW's traditional northern Wisconsin service territory.

9. Consistent with the NSP Companies long history of collaborating with its neighboring utilities, NSPW worked with ATC to allow ATC to install a 345 kV transformer and interconnect it with the existing Stone Lake Substation. At the time, in light of the connection's temporary nature, the Stone Lake transformer was contemplated to be wholly owned and constructed by ATC with the cooperation of NSPW. Eventually, it became clear that it would make sense to make the Stone Lake transformer to be a permanent facility to provide support for the area, provide an intermediate interconnection to improve the performance of the line, and enhance reliability. In addition, several portions of the Arrowhead Project transmission line route were double circuited with existing lower voltage NSPW transmission lines, facilitating the routing of the project.

10. Thereafter, ATC and NSPW entered into an agreement in which the ownership of the Stone Lake 345 kV transformer was transferred to NSPW. This transaction occurred long after the ownership of the Arrowhead – Weston Project had been decided. As I understand it, the Midwest ISO approved the Arrowhead Project in its 2005 expansion plan (MTEP05), and designated ATC as the owner. NSPW never made any claim that its voluntary cooperation to help its neighboring utilities implement the Arrowhead – Weston Project gave NSPW a right to claim ownership of a portion of that project. As noted, the Stone Lake 345 kV transformer and associated equipment was first constructed and owned by ATC, with the cooperation of NSPW, as a temporary connection that would be removed upon completion of the entire project. NSPW took ownership of the Stone Lake 345 kV transformer only to help normalize the operation and maintenance of its facilities.

11. NSPW's involvement in the Arrowhead Project is consistent with its history of collaborative transmission development. NSPW was not invited to share an ownership stake in the Arrowhead Project by ATC or MP. NSPW did not feel that it was appropriate to claim ownership of a line being developed by other utilities, and which was not intended to interconnect with NSPW's pre-existing facilities. The after-the-fact fortuity of ATC needing the Stone Lake 345 kV transformer to support Arrowhead to Weston construction was not the sort of connection that Xcel Energy thought created a rationale for NSPW to claim an ownership stake in the Arrowhead Project.

12. From my perspective, in regards to the Arrowhead Project, NSPW cooperated with its neighboring utilities regarding the routing analyses and the potential to share right-of-way with our facilities. In addition, we worked with ATC when an interconnection to the NSPW system and the construction of additional facilities was necessary to support the

Arrowhead Project. NSPW's ownership of the Stone Lake 345 kV transformer is an historical afterthought in the development of the Arrowhead Project. At no time was NSPW approached to invest in or own the Arrowhead Project once earnest work began on the analysis of the Arrowhead Project during the work of the participants on the 1999 WRAO Report.

NSPW's Development of the La Crosse – Madison Line

13. In my position as Manager, Siting and Land Rights, XES, I manage land rights and certain permitting activities for transmission projects pursued by the NSP Companies. In this role, I have overseen the state permitting process of more than 100 projects, totaling over 1800 miles of 345 kV, 230 kV, 161 kV, 115 kV and 69 kV transmission facilities.

14. Generally, XES and the NSP Companies begin development work, including identifying potential routes, preliminary landowner outreach, and preliminary outreach to affected governmental agencies about six years prior to the expected in-service date for a particular project. This is a just a general assessment, as each project has different challenges or advantages and development work could begin sooner or later as circumstances warrant and depending on how the affected state's major permitting processes are structured. The NSP Companies have been generally successful in completing projects on time.

15. As described in the affidavit of Mr. Daniel Kline included as Attachment B to the XES Complaint, the La Crosse – Madison Line has been planned as the next phase of transmission development after the CapX2020 Twin Cities – La Crosse Project, a proposed 345 kV transmission line from NSPM's Hampton Corner Substation south the Twin Cities area in Minnesota to the Briggs Road Substation near La Crosse, Wisconsin. The Twin Cities – La Crosse Project remains in the permitting process before the Minnesota Public Utilities Commission ("MPUC") and the PSCW at this time, and the proposed in-service date for that line is 2015. The MPUC has granted a Certificate of Need, and an Administrative Law Judge ("ALJ") recently recommended a route permit for the portion of the project in Minnesota; that recommendation is pending final MPUC action. Hearings in the PSCW CPCN proceeding were completed on March 7, 2012, and the PSCW is expected to act on the CPCN application in early June 2012.

16. Mr. Kline's affidavit states that pursuant to MTEP11, approved by the Midwest Independent Transmission System Operator, Inc. ("MISO") in late 2011, the La Crosse – Madison line has a planned in-service date of 2018. However, it is my understanding the La Crosse – Madison Line is only feasible if the Twin Cities – La Crosse Project is approved, because the La Crosse – Madison Line must interconnect to 345 kV facilities near La Crosse (e.g., Briggs Road Substation). As indicated, MPUC and PSCW regulatory decisions on the Twin Cities – La Crosse Project are expected by mid-2012.

17. Since the La Crosse – Madison Line is not feasible if the Twin Cities – La Crosse Project is not approved, and Xcel Energy expects about a six year time frame to complete a project, Xcel Energy would be commencing pre-permitting activities for its portion of the La Crosse – Madison Line around mid-2012, beginning with the identification of

potential routes, to meet the Project's projected 2018 in-service date. I would not expect Xcel Energy to begin the process prior to mid-2012, as our experience has generally been that a six-year development cycle is sufficient.

18. The ATC Answer asserts that ATC will be harmed if NSPW is granted an opportunity to own a portion of the Project, because ATC started pre-permitting activities in 2010. I have no experience regarding ATC's timing for pre-permitting activities except that this process began two years earlier than the NSP Companies would have started such activities for the facility. I do not know the reason why. NSPW would not begin permitting activities for the La Crosse – Madison Line until the Twin Cities – La Crosse Project is approved by the PSCW so that the required need determination would already be made by the PSCW and the final route would be known.

Further, Affiant sayeth not.

Pamela Rasmussen

Subscribed and sworn to before me
this 19th day of March, 2012

Notary Public

ROSHELLE HERSTEIN
Notary Public
Minnesota
My Commission Expires January 31, 2015

SCHEDULE 1 TO AFFIDAVIT OF PAMELA JO RASMUSSEN

CURRICULUM VITAE

Pamela Jo Rasmussen

WORK EXPERIENCE

Xcel Energy Services, Inc. – Northern States Power Company
22 years experience

- **Manager, Siting & Land Rights, 2008-present**
- **Supervisor, Siting & Permitting,** 2003 - 2008
- **Permitting Analyst; Team Lead, Permitting Analyst,** 1990 - 2003
- **Licensing Coordinator,** 1989 - 1990

- Manages land rights and permit activities for NSP-Minnesota and NSP-Wisconsin, for electric transmission line and substation projects in Minnesota, North Dakota, South Dakota, Wisconsin and Michigan.
- Directs the acquisition, management and disposal of land rights and real property for the Companies' gas, electric, transmission & distribution systems.
- Directs liaison with government agencies and public during construction project permitting which includes public involvement, permit development and permit compliance.
- Responsible for staff who prepare assessments project environmental impacts, assembling of all necessary environmental information required for permit approvals as well as recommendations to minimize construction impacts for all transmission and substation projects.
- Has presented on a variety of environmental issues at EEI, EPRI and other industry conferences on avian issues regarding transmission lines, public involvement and multi-state permitting processes.
- Leader in promoting company environmental stewardship efforts for the transmission area and land management. Led Xcel Energy efforts to sign the first voluntary MOU with the U.S. Fish & Wildlife Service to develop bird protection plans for all Xcel Energy's operating companies which are in effect.
- Member of NSPW hydro relicensing team that secured new licenses for seven NSPW hydropower facilities.

EDUCATION

- **University of Wisconsin – Eau Claire, WI,** Bachelor of Business Administration degree, December, 1987. Magna Cum Laude, University Honors Program. Biology and Business Administration Majors
- Fundamentals in Electric Power Certificate, May 1995

ORGANIZATIONS/INTERESTS/ACTIVITIES

- Xcel Energy United Way Committee (1994 to present)
- Xcel Energy Earth Day Committee (Circle of Excellence Team in 2008)
- NSPW Employees' Association (1993 to 1995)
- International Right-of-Way Association
- Friends of Beaver Creek Reserve, Board of Directors (1997 to present), President (2005 to 2009)
- Beaver Creek Foundation, Board (2010 to present)
- Eau Claire Community Beautification Association (2005 to 2009)

PROFESSIONAL DEVELOPMENT

- Xcel Energy Leadership Pipeline, 2007-2008
- Leadership Eau Claire, 2004
- NSP Corporate Finance Seminar, 1991

▪ pamela.jo.rasmussen@xcelenergy.com
▪ work: 715.737.4661

SCHEDULE 2 TO AFFIDAVIT OF PAMELA JO RASMUSSEN

WRAO REPORT

REPORT OF THE WISCONSIN RELIABILITY ASSESSMENT ORGANIZATION ON TRANSMISSION SYSTEM REINFORCEMENT IN WISCONSIN

June 14, 1999

Table of Contents

Attachments

Executive Summary

The Wisconsin Reliability Assessment Organization (WRAO) was formed to coordinate the planning of generation and transmission facilities to ensure the reliability of Wisconsin's electric supply system. This report describes the WRAO's recent study of transmission system reinforcement plans and the abilities of those plans to achieve numerous technical, environmental, and policy criteria. Based upon the findings of this examination, the WRAO has developed a recommendation for the Public Service Commission of Wisconsin (PSCW) which it believes will significantly enhance the reliability of the regional transmission system at a reasonable financial cost and environmental impact.

The technical analysis underlying our recommendation was performed by the Wisconsin Interface Reliability Enhancement study (WIREs) group under WRAO direction. Governmental agency participants in the WIREs group included members of the staffs of the Illinois Commerce Commission, the Iowa Utilities Board, the Minnesota Department of Public Service, the Minnesota Public Utilities Commission, as well as the PSCW. The WIREs group had as a fundamental objective the identification and specification of transmission plans which would increase Wisconsin's electrical transfer capability to 2000 megawatts from both the west and the south and 3000 megawatts simultaneously. This level was basis for the transmission improvements the level identified in PSCW's report to the Wisconsin legislature dated September 1, 1998.

The WIREs group's Phase I report, dated August 1998, identified twelve potential representative system reinforcement plans to meet this transfer capability objective. More detailed analysis further refined this "short list" to seven plans which met the minimum transfer capability requirement. Quantification of the performance levels and costs of these seven plans was subsequently performed and summarized in matrix form. The performance matrix is included in the body of this report; the entire Phase II WIREs report is attached as an attachment. A paper supporting the transfer capability levels described above is also attached as an attachment.

The environmental screening analysis underlying our recommendation was performed by second group of WRAO-member personnel. The intent of the screening was to provide a reconnaissance-level analysis and description of potential transmission line study areas. With the assistance of a consultant and input from the staffs of the PSCW, the Minnesota Environmental Quality Board (MEQB), the Iowa Utilities Board, and other stakeholders, a report was produced which provides a visual review of the study areas and a general review of major environmental issues that will need to be addressed as system expansion progresses. A summary of the environmental findings is included in the body of this report; the entire report is attached as an attachment.

Beyond the technical and environmental considerations of transmission expansion are policy considerations which must be taken into account in arriving at a recommended course of action. Issues such as geographic diversity and ability to construct, while not

easily quantified, are nevertheless highly relevant. A discussion of the policy criteria is also included in the body of this report. An examination of the importance of geographical diversity is attached as an attachment.

After careful consideration of the implications of the seven transmission plans, based upon the Phase II WIREs group analysis of performance and cost, the environmental screening analysis, and several policy criteria, the WRAO concluded that plan 3j (Arrowhead – Weston 345 kV) is the best plan for achieving the multiple objectives of this study effort. Plan 3j meets all technical criteria and appears to have reasonable routing alternatives. It also provides geographic diversity, low system losses, and is capable of being constructed with an acceptable cost and schedule.

In order to achieve the benefits which construction of plan 3j would provide, it must be constructed in its entirety. For all of the plans presented, several significant additions or upgrades to the underlying transmission system are required. Notably, the Chisago – Apple River 230 kV project presently under regulatory review in Wisconsin and Minnesota is considered a critical requirement for all of the plans (except plan 5a, Chisago – Weston 345 kV). The Chisago – Apple River project is an integral system reinforcement and is also critical for local load serving. If transmission plan 3j ultimately is not constructed in its entirety, the WRAO has identified transmission plan 5b (Apple River – Weston 230 kV) as an alternative.

Introduction

History of Reliability Coordination in Wisconsin

In response to the energy crisis of the early 1970's and growing environmental awareness and activism, the State of Wisconsin enacted the Power Plant Siting Act of 1975. This Act required the Public Service Commission of Wisconsin (PSCW) to periodically conduct a statewide planning docket examining the need for major new electric generation and transmission facilities. This planning process was known as the Advance Plan and eight such dockets took place since their inception, the last of which was completed in January 1999.[1] The appropriate method of addressing the needs identified within the Advance Plan was subsequently taken up in Certificate of Public Convenience and Necessity (CPCN) construction application dockets.

During this time, utilities in eastern Wisconsin and much of Upper Michigan were organized as a subregion of the MAIN (Mid-America Interconnected Network) region of the North American Electric Reliability Council (NERC). NERC was formed to coordinate planning and operation of the continental electrical transmission grid in the wake of massive blackouts on the East Coast in the late 1960's and 1970's. The Wisconsin – Upper Michigan System (WUMS) subregion of MAIN was designated as the entity responsible for coordinated planning in eastern Wisconsin.

In 1997, events combined to raise concern about electric supply reliability within the Midwest. Several large nuclear generating units were in extended outages for maintenance work during critical peak and near-peak demand periods. At the same time, the transmission system, which had been constructed primarily to transport power within a utility's own system and provide access to outside sources in emergencies, was straining under new bulk loads resulting from recently enacted federal legislation which opened the interstate grid to competition. At times, the regional electric system was operating in a state close to precipitating cascading blackouts if any disturbance occurred.

In recognition of this situation, Wisconsin utilities and regulators formed an ad hoc group which came to be known as the Wisconsin Reliability Assessment Group. This group was dedicated to coordinating the operation and planning of generation and transmission

[1] Since the late 1980's, the Advance Plan process has been the primary forum for studies of the need for new transmission interconnections. Studies of the need for new transmission interconnections and of alternative interconnection projects were conducted in Advance Plans 5, 6 and 7, with a detailed assessment of needs and alternatives being performed as part of Advance Plan 6.

to ensure the reliability of Wisconsin's electric supply system. It reconstituted itself in 1998 as the Wisconsin Reliability Assessment Organization (WRAO).[2]

One of the early actions taken by the WRAO and its predecessor group was to assemble a group of transmission planners from its members and their counterparts in surrounding states to examine measures which could be taken to alleviate the strain on the region's transmission system. This technical subgroup formed into the Wisconsin Interface Reliability Enhancement study (WIREs) group.[3] The WIREs group has been operating under the direction of the WRAO since that time.

The 1997 Wisconsin Act 204 (Act 204) was signed into law in early 1998. To address the immediate transmission aspects of the reliability issue, Act 204 ordered the PSCW to issue a report to the Legislature identifying constraints and recommending alternatives for enhancing the State's transmission capacity. Act 204 also eliminated the Advance Plan process and replaced it with a Strategic Energy Assessment (SEA), the details of which are presently under development.

Since the WIREs group was already in the process of conducting a study of plans for relieving the constraints on Wisconsin's transmission system, it was decided that the WIREs group's Phase I report should be used as the basis of the PSCW's report to the Legislature, which was issued September 1, 1998. The PSCW's report described a "short list" of twelve representative system reinforcements to address the State's transmission constraints. It also included a list of all associated projects which must be completed in order for the twelve reinforcements to achieve their goals. The twelve system reinforcements described in the PSCW report were reduced to seven transmission plans in the WIRES Group's Phase II study.

It should be recognized that the focus of the study effort described in this report was on the evaluation of transmission system expansion plans that relieve constraints on Wisconsin's transmission system. The alternative of attempting to relieve transmission constraints by constructing strategically placed generation integrated with minimal transmission development in lieu of major new transmission facilities was not evaluated. This generation/transmission approach was not evaluated because it introduces too much uncertainty in terms of producing a dependable solution to the state's transmission problems. Given the nature of the emerging deregulated generation market, there is no

[2] The WRAO utility participants are Alliant Energy, Dairyland Power Cooperative, the Municipal Electric Utilities of Wisconsin, Madison Gas and Electric, Minnesota Power, Northern States Power, Wisconsin Electric, the Wisconsin Federation of Cooperatives, Wisconsin Public Power Inc., and Wisconsin Public Service. Staff of the Public Service Commission of Wisconsin participate regularly in an *ex officio* capacity.

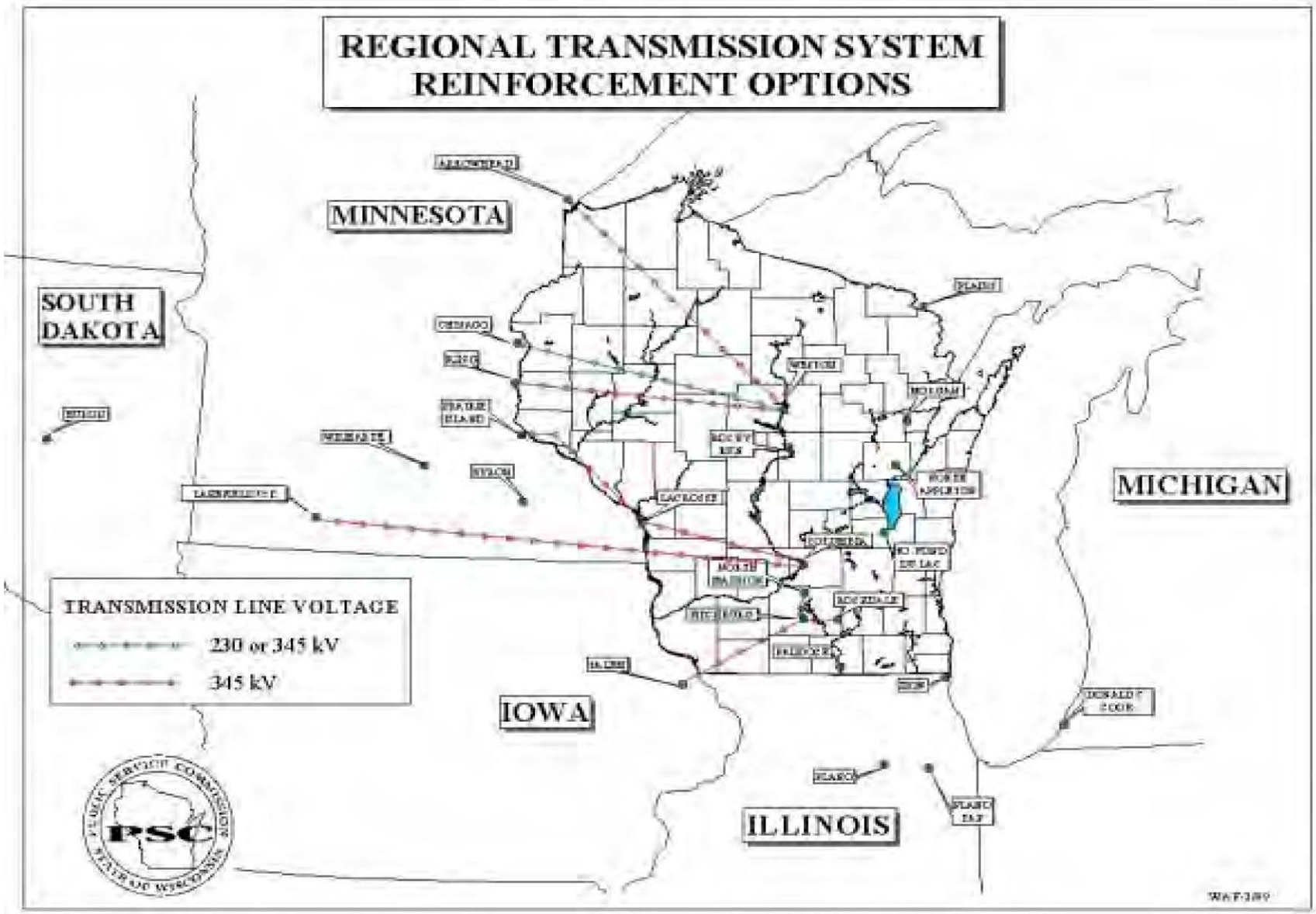
[3] WIREs group utilities are Alliant Energy, Commonwealth Edison, Dairyland Power Cooperative, Madison Gas and Electric, Manitoba Hydro, Minnesota Power, Northern States Power, Wisconsin Electric, Wisconsin Public Power Inc., and Wisconsin Public Service. Public power agency participants are the Badger Power Marketing Authority and the Municipal Electric Utilities of Wiscsonsin. Regulatory agency participants include the Illinois Commerce Commission, the Iowa Utilities Board, the Minnesota Department of Public Service, the Minnesota Public Utilities Commission, and the Public Service Commission of Wisconsin. Input was also provided by the Mid-America Interconnected Network, Inc. and the Mid-Continent Area Power Pool regional reliability councils of the North American Electric Reliability Council.

means of assuring the amount, timing or location of potential new generation facilities that would relieve transmission constraints. In addition, given the nature of the transmission constraints in Wisconsin, this approach would result in more costly and less robust options than any of the transmission plans considered in this study. Further, this type of approach to relieving transmission constraints could leave Wisconsin with limited flexibility in resource procurement in the event the generation market does not develop as needed in terms of amount, timing and location to relieve the constraints.

This document incorporates the results of the second phase of the WIRES group study efforts which led to the development of the seven transmission plans which were subjected to detailed review by the WRAO. The WIRES Phase II Report is provided as Attachment A to this report.

Plan[4]	Plan Description
1c	**Salem–Fitchburg, No. Madison–Fitchburg-Rockdale, 345 kV**
2e	**Prairie Island–La Crosse–Columbia, 345 kV**
2f	Salem–Paddock, 345 kV
3e	Arrowhead–Weston–So. Fond du Lac, So. Fond du Lac–Plano, 345 kV
3j	**Arrowhead–Weston, 345 kV**
3k	Arrowhead–Weston, 230 kV
5a	**Chisago–Weston, 345 kV**
5b*	**Apple River–Weston, 230 kV**
6c	Chisago–Rocky Run, Rocky Run–So. Fond du Lac, 345 kV
8b	Wilmarth–Byron–Columbia, 345 kV
9a	Huron-Split Rock-Lakefield Jct–Adams, Adams–Genoa–Columbia, 345 kV
9b*	**Lakefield Jct- Adams, Adams–Genoa–Columbia, 345 kV**
10*	**King–Weston, 345 kV**
12	Plano–Plano Tap, 345 kV
13c	Arrowhead–Plains, Morgan–No. Appleton, 345 kV

[4] The plans denoted with an asterisk (*) were added after Phase I. The plans listed in bold type were examined in detail in Phase II. The Plano – Plano Tap 345 kV project or an equivalently effective operating procedure is eventually required in all of the plans shown above, except for option 3e. An operating procedure is expected to delay the need for a physical solution beyond 2002 which is the target year of the WIREs analysis.



Study Approach and Scope

A workplan for WIREs Phase II was developed which included several "analysis paths". The analysis paths were essentially examinations of each option's capabilities in various technical categories. The short list of options was refined to seven candidates.

In order to address anticipated concerns for environmental issues, the WRAO commissioned a study of each remaining option's environmental impacts. In the process of developing the specifications of this study, the environmental dissimilarity of two alternate study areas with generally similar electrical capabilities resulted in the expansion of the list of remaining options from six to seven.

The fundamental requirement for any option to be examined was its ability to result in a transfer capability of 2000 megawatts from both the west and south and a simultaneous transfer capability of 3000 megawatts. In support of this requirement, an assessment of Wisconsin's transfer capability requirements was conducted. As part of this assessment, a Loss of Load Expectation (LOLE) study was conducted which employed industry-standard methods and reliability criteria and two alternative sets of assumptions regarding internal generation plans in order to produce bounds around the minimum reliability-based transfer capability requirement. The first set of assumptions increases internal generation at any time that reserves fall below the state-mandated 18% requirement. The second set of assumptions caps internal generation at presently approved levels and forces shortfalls to be addressed with imports. A similar study conducted earlier provided quantification of additional transfer capability requirements which would result from extended plant outages needed to retrofit existing facilities with NOx regulation compliance equipment.

WRAO and Stakeholder Input

One of the aims of the WRAO's efforts in its coordination of planning is to take into consideration the diversity of expertise and opinion held by non-utility parties who may be affected by its recommendations. Toward that end, the WRAO has held meetings of "stakeholders" to discuss the progress of its work. Three stakeholder meetings have taken place since November of 1998, and they have been attended by representatives of governmental agencies, consumer groups, renewable resource advocates, environmental groups, independent power producers, power marketers, neighboring utilities, and reliability councils. As one might expect, a broad range of opinions was expressed at the meetings. Environmental representatives expressed concerns relating to the potential impacts of river crossings in environmentally sensitive areas. Large customer representatives expressed interest in increasing transfer capability to enhance reliability and facilitate economic transactions. Stakeholders were invited to comment on the draft of this report and their written comments are attached. The licensing processes in Wisconsin and affected surrounding states will provide additional forums for expression of support and opposition.

In recognition of bulk power system reliability as inherently a regional concern, the WRAO has encouraged and actively participated in five Regional Reliability Symposia since September 1997. They have taken place in Wisconsin, Minnesota, Iowa, and South Dakota.

Evaluation Summary

Technical Analysis

(Note to reader: this section of the WRAO report is nearly identical to the Executive Summary of the WIREs Phase II report. Minor stylistic changes have been made to facilitate incorporation into the WRAO report. The entire WIREs Phase II report appears as Attachment A to the WRAO report.)

The technical analyses were performed by the Wisconsin Interface Reliability Enhancement study (WIREs) group. The WIREs group was formed under the auspices of the Wisconsin Reliability Assessment Organization (WRAO) in the spring of 1998 in response to transmission reliability concerns stemming from events in 1997 and 1998 which caused reliability margins to drop below historically observed levels. The WIREs group consists of participants from utilities in Illinois, Iowa, Minnesota, Wisconsin, and the Canadian Province of Manitoba and the Mid-Continent Area Power Pool (MAPP) and Mid-America Interconnected Network (MAIN) reliability councils. Regulatory agencies in Illinois, Iowa, Minnesota, and Wisconsin also participated as ex officio members.

The second phase of this two-phase study effort was designed to identify transmission constraints on the regional bulk power transmission system and to evaluate transmission reinforcement alternatives to alleviate those constraints. The Phase I study effort, culminating in August of 1998 with the release of the *Wisconsin Interface Reliability Enhancement Study Phase I* report, consisted of a screening analysis to determine regional transmission constraints and the identification of a set of representative transmission reinforcement alternatives that would increase the simultaneous transfer capability into Wisconsin to 3000 MW. The 3000 MW simultaneous import capability was achieved by importing 2000 MW across transmission interconnections to the west and 1000 MW across transmission interconnections to the south or 1000 MW from the west and 2000 MW from the south. To the north and east Wisconsin has no transmission interconnections because of Lakes Superior and Michigan.

The Phase I study effort also constituted the basis for a report developed by the Public Service Commission of Wisconsin (PSCW) for the Wisconsin Legislature on the regional electric transmission system.

The WRAO, in its *REPORT OF THE WISCONSIN RELIABILITY ASSESSMENT ORGANIZATION ON TRANSMISSION SYSTEM REINFORCEMENT IN WISCONSIN*, has considered the technical analyses of the WIREs group along with environmental screening studies, policy considerations, geographical diversity, and ability to construct to formulate a recommended transmission reinforcement plan.

Alternative Transmission Reinforcement Plans Considered

The Phase II study effort refined the Phase I study results by further defining relative performance differences between alternative transmission reinforcement plans. The set of twelve original representative system reinforcements, which were identified in the Phase I study effort, were refined into seven transmission reinforcement plans. The reinforcements are referred to as "plans" because several projects, in addition to a major high voltage transmission line, are required to achieve the transfer capability objective. All of the projects associated with a particular "plan" are included in the cost estimates detailed in Chapter 8 of this report.

The major transmission system additions associated with each of the seven reinforcement plans evaluated in this study are:

- Plan 1c (Salem – Fitchburg 345 kV)
- Plan 2e (Prairie Island – Columbia 345 kV)
- Plan 3j (Arrowhead – Weston 345 kV)
- Plan 5a (Chisago – Weston 345 kV)
- Plan 5b (Apple River – Weston 230 kV)
- Plan 9b (Lakefield – Columbia 345 kV)
- Plan 10 (King – Weston 345 kV)

Performance Evaluation

The relative performance differences of the reinforcement alternatives were established with multiple evaluation techniques. Those evaluation techniques included the following:

- *Detailed power flow simulations*
- *Generator response to transmission line switching operations*
- *Dynamic stability*
- *Voltage stability*
- *Impact on the MAPP transmission system*
- *Construction cost estimates*
- *Impact on system losses*
- *Evaluated cost proxy*

The study group utilized a 2002 summer power flow model to evaluate the characteristics of each reinforcement plan. The 2002 model was chosen due to the lead time required to evaluate, license, engineer, and construct a transmission reinforcement of these magnitudes.

Detailed Power Flow Simulations

Several detailed power flow simulations were performed on each reinforcement plan to determine:

- the reactive voltage support required to achieve the 3000 MW simultaneous import capability
- the maximum transfer capability
- the sensitivity of the 3000 MW import capability to modeling assumptions

The detailed power flow simulations verify that each of the reinforcement plans is capable of supporting 3000 MW of simultaneous import capability. However, some plans provide more incremental transfer capability above the 3000 MW target than others. In addition, the maximum transfer capability of some plans is more sensitive to changes in modeling assumptions than others. The Table 1 (rows a-d) summarizes the power flow simulation results and shows the maximum transfer capability of each reinforcement plan under different modeling assumptions.

Generator Response to Transmission Line Switching Operations

The ability to transfer power across the western interface is currently limited by the Arpin phase angle. The Arpin phase angle limitation is a proxy for the maximum amount of stress introduced to the Weston generators when any portion of the King – Eau Claire – Arpin 345 kV line is switched. A sudden loss of any portion of the King – Eau Claire – Arpin 345 kV line results in a system “separation” between MAPP and eastern Wisconsin. When the line is re-closed across this “separation” an instantaneous change in power output is experienced on the Weston generator units which places mechanical stress on the shaft of each unit. The Weston units experience this phenomena due to their physical proximity to the western interface. The current Arpin phase angle limitation is 60 degrees (the maximum “separation”).

Rather than focus on the Arpin phase angle as a proxy measurement for the impact on the Weston generating units, the WIREs group focused on a direct measurement; the instantaneous change in power output of the Weston units upon the closure of the Eau Claire – Arpin 345 kV line. Analysis of the present day system calculated the Weston "delta P" corresponding to the re-close of the Eau Claire - Arpin 345 kV line with a phase angle difference of 60 degrees demonstrated that Weston Unit #3 would experience a “delta P” of 37.2% (or 0.372 per unit).

Analysis of each of the seven reinforcement plans at the target simultaneous transfer capability of 3000 MW (2000 MW west/1000MW south) indicates that each plan except for Plan 1c (Salem – Fitchburg 345 kV) results in a “delta-P” less than 37.2% limit. The Weston “delta-P” results for each of the seven reinforcement plans are shown in Table 1 (row e)

Dynamic Stability

Dynamic stability is the measure of the system's ability to react to a major system disturbance such as a short circuit on a transmission line, the opening of a line, the loss of a large generator, or the switching of a major load. Dynamic stability evaluates the ability of the system's generation units to remain synchronized and to "recover" from a system disturbance.

The dynamic stability analyses performed in this study considered the following:

1. WUMS and MAPP area disturbances
2. New facility disturbances
3. Maximum Columbia & Weston generation output sensitivities
4. Breaker failure performance (Rocky Run area)
5. Damping of the ¼ Hertz mode of oscillation
6. Incremental transfer capability assessment based on ¼ Hertz mode of oscillation.
7. Dynamic reactive support requirements

In general, all plans met established transient voltage and rotor angle criteria for the WUMS 2000 MW west – 1000 MW south import transfer condition. No additional reactive voltage support (VAr) requirements, over and above those identified through the power flow analyses, were identified.

The most pronounced difference between the reinforcement plans was observed for disturbances involving a loss of a major Twin Cities 345 kV outlet facility. For a loss of either the King – Eau Claire – Arpin 345 kV or the Prairie Island – Byron 345 kV transmission line, differences in transient voltage performance within MAPP and WUMS and damping of the MAPP/MAIN ¼ Hertz mode of oscillation were observed. Damping of the ¼ Hertz mode of oscillation is currently a stability limiting condition for the Twin Cities export (TCEX) limitation.

The damping of the ¼ Hertz (Hz) oscillation mode is dependent on transfer levels. To determine the maximum transfer capability at which the ¼ Hz mode is a limit, an incremental transfer capability (ITC) number was calculated based on the loss of either the King or Prairie Island 345 kV lines. The dynamic stability results of the ¼ Hz mode of oscillation are shown in Table 1 (row f).

Some generator stability problems were identified in the Rocky Run area for delayed clearing breaker failure cases studied with maximum generation at the Weston generating plant. These were found to be problems inherent in the base case and can be corrected with reduced failed breaker clearing times.

Voltage Stability

Voltage stability is the measure of a system's ability to maintain adequate voltage profiles following a major system disturbance such as the loss of a critical transmission line. Without adequate voltage support, a system could experience "voltage collapse", a condition characterized by declining voltages that cannot support customer load. The results of this analysis show that voltage instability is not encountered at a western interface transfer of 2000 MW.

The WIREs group undertook the voltage stability assessment with the MAPP Transmission Reliability Assessment Working Group and Power Technologies Inc. (PTI), a power system study consultant. The consultant's study work focused on western interface transfers because the western interface is more susceptible to voltage collapse than the southern interface. Past operating experience indicates that the southern interface is limited by thermal overload constraints rather than by voltage stability concerns.

In order to determine the maximum western interface transfer at which voltage instability is encountered, transfers were increased beyond the 2000 MW level (all other limitations were ignored). Results of this sensitivity are shown in Table 1 (row g) and demonstrate that some reinforcement plans provide more western interface transfer capability before voltage instability is exhibited.

Impact on the MAPP Transmission System

The impact of the seven reinforcement plans on the neighboring MAPP system was evaluated by considering the change in flow on the MAPP flowgates. Flowgates are a set of transmission lines with a single flow capability that define a thermal, voltage, or stability limitation. The geographical areas represented by the MAPP flowgates are shown in the figure below.

The change in flow on each flowgate due to the addition of a reinforcement plan to the system was determined by measuring the before and after reinforcement flow at a transfer level of 3000 MW (2000 MW western transfer / 1000 MW southern transfer). These results demonstrate that most reinforcement plans reduce flow on the MAPP flowgates as they are defined today[5]. The results are shown in Table 1 (rows h-l).

[5] It is important to note that some flowgate definitions and ratings may change when a major transmission reinforcement is added to the system.

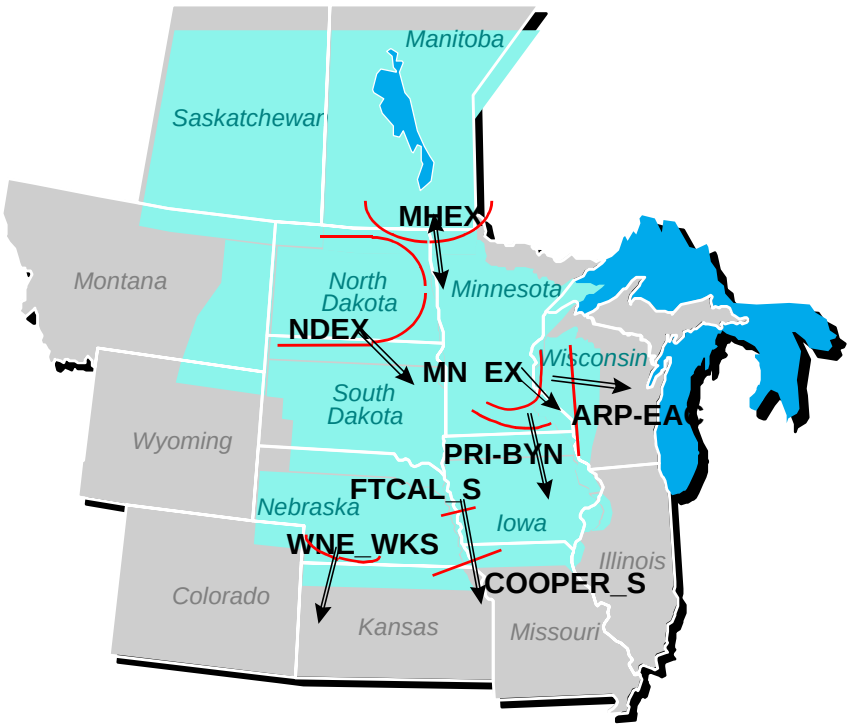


Figure ES- 1

Impact of System Losses

An analysis was undertaken to quantify the relative cost of system losses among the reinforcement plans. The costs associated with losses are summarized as an equivalent capital investment adjustment to the initial capital construction cost for each alternative. An equivalent capital cost adder is calculated for each reinforcement plan that is relative to the plan with the least losses. The capital cost adder for each reinforcement plan is shown in Table 1 (row m).

The process computes the lifetime costs for the installed generating capacity and associated energy to serve the losses that would prevail for each alternative. Transmission losses are included for the MAPP, MAIN, and SPP Regions. The cost adder is based on subtracting the life time costs of the lowest cost alternative, from the cost of all alternatives. Three components of adjusted capital cost were computed. These are due to generation capacity to supply the losses, annual energy losses to serve load, and annual energy losses due to point-to-point transactions.

Capacity Cost

Each plan causes the greatest demand for losses at some anticipated transfer level condition. In the cost evaluation, the maximum amount of loss caused by a plan is assigned a cost of 400 $/kW. The resulting cost represents the cost for installed generating capacity that would be required to serve the losses.

Energy Loss for Load

Each plan has energy losses associated with the annual hourly loss that occurs as the load pattern is served. An annual load pattern is sufficiently predictable, so that the resulting cost for Energy Loss for Load is a constant for each plan. The annual energy to serve load in each plan has been set at 30 % of the energy that would be lost if the peak load occurred all hours in the year. The annual energy lost as a consequence of serving load is priced out at 15 $/MWh. The resulting annual energy cost is equated to a levelized annual carrying charge. The annual carrying charge dollars are then converted to an equivalent capital investment, by dividing by 15 %.

Energy Loss for Transactions

Each plan has energy losses that are required to support the various point-to-point transactions that are planned. After determining the annual energy associated with the point-to-point transactions, a capital investment is computed by dividing by 15 %. Due to the varying degrees that future point-to point usage can occur, the annual Energy Loss for Transactions have been computed over a range of operating conditions. For example 5% of the time a 2000 MW import into WUMS from the West and a 1000 MW import from the South is one operating point along with, 40% of the time at a 1000 MW West import and 0 MW South import, etc.

Construction Cost Estimates

The cost estimates for the WIREs reinforcement plans are comprised of three parts. These three parts are cost of transmission lines, cost of substation terminal additions, and the cost of associated projects. The total construction cost, expressed as a range of values for each reinforcement plan, is shown in Table 1 (rows n and o). The construction cost estimates contain a range to account for discrete “study areas” between substation end-points. A team of environmental analysts retained by the WRAO to examine the seven reinforcement plans developed the “study areas”.

The three segments of the construction cost estimates are discussed below.

Cost of Transmission Lines

Black & Veatch, an engineering consultant retained by WRAO for this purpose, developed the cost estimates for the transmission lines. The transmission line cost estimates were based on the study areas defined for each plan by an environmental consultant working with WRAO and the WIREs group. For each study area, a single circuit cost estimate and a cost estimate that utilized all potential double

circuiting opportunities were developed. In most cases, four cost estimates were developed for each reinforcement plan (two study areas times two cost estimates).

Cost of Substation Terminal Additions

The cost estimates for the substation terminal additions and enhancements required for each WIREs plan were developed by the utilities whose service territories contained the substations under consideration. Black & Veatch supplied standard substation "component costs" which were used by each utility in determining the estimated cost for these improvements. The component costs used are listed in a subsequent section.

Cost of Associated Projects

The associated projects are various system improvements which were required enhancements in order for the WIREs plan under consideration to achieve the stated power transfer goals. The cost estimates for these projects were developed by the utilities whose service territories contained the system elements under consideration.

Evaluated Cost Proxy

An evaluated cost proxy, which merged the construction cost, the equivalent capital cost adder for losses, and other savings from avoided local load serving projects is included in Table 1 (row p and q). The evaluated cost proxy is a portrayal of the overall economic impact of each reinforcement plan based on construction cost, the cost of losses, and a credit for avoided facilities. As with the construction cost estimates, the evaluated cost proxy is shown as a range to account for the different "study areas" for each reinforcement plan (the "study areas" were developed by the WRAO's environmental team).

Table ES-1 WIRE Study - Summary of Plans' Performance Evaluation

Performance Results All Reinforcement Plans Satisfy 3000 MW Simultaneous Import Objective *ver3- 4/9/99*	Salem-Fitchburg 345 kV 1c	Prairie Island-Columbia 345 kV 2e	Arrowhead-Weston 345 kV 3j	Chisago-Weston 345 kV 5a	Apple River-Weston 230 kV 5b	Lakefield Jct-Columbia 345 kV 9b	King-Weston 345 kV 10
Southern Interface Transfer Capability (with 1000 MW western bias)							
a **Transfer Capability - Southern Interface**	2450	2370	2130	2150	2010	2400	2140
Western Interface Transfer Capability (with 1000 MW southern bias)							
b **Transfer Capability - Western Interface (MW)**	2210	2580	2280	2270	2120	2750	2300
c **Transfer Capability - Source Sensitivity (MW)**	2110	2550	2190	2190	2140	2810	2200
d **Transfer Capability - Sink Sensitivity (MW)**	2160	2720	1860	1880	2160	2590	1890
e **Weston Delta P (per unit improvement from existing limit @ 2000 MW)**	-0.013	0.015	0.036	0.166	0.064	0.009	0.247
f **Dynamic Stability - .25 Hz Damping (MW incremental xfer through WUMS)**	50	720	450	670	220	120	480
g **Voltage Stability (western transfer level MW - no southern import)**	2615	3245	2615	2865	2865	3105	2865
Other Factors							
h **MAPP OPPD Flowgate Loading (avg % loading change from base case)**	-1.2%	-9.3%	-7.9%	-8.6%	-5.5%	-12.4%	-7.9%
i **MAPP COOPER_S Flowgate Loading (% loading change from base case)**	-7.9%	-18.1%	-14.7%	-16.1%	-11.6%	-22.3%	-15.4%
j **MAPP ECL-ARP Flowgate Loading (% loading change from base case)**	-0.8%	-6.3%	-19.7%	-24.3%	-10.6%	-7.5%	-20.2%
k **MAPP PRI-BYR Flowgate Loading (% loading change from base case)**	1.3%	-26.1%	-15.5%	-18.3%	-9.0%	7.0%	-16.5%
l **MAPP MN EX Flowage Loading (% loading change from base case)**	0.3%	-17.6%	-17.0%	-20.6%	-6.7%	8.1%	-20.2%
Economic Factors							
m **Losses (Capital Cost Adder w/r to Plan 3j - million $)**	$50.2	$27.2	$0.0	$1.4	$38.7	$29.0	$20.8
n **Construction Cost Range (single ckt - million $)**	$116 - $145	$169 - $176	$177 - $210	$172 - $205	$118 - $144	$227 -	$136 - $139
o **Construction Cost Range (doubl ckt - million $)**	$158 - $227	$243 - $265	$266 - $310	$240 - $284	$171 - $208	$395 -	$210 - $262
p **Evaluated Cost Proxy Range (single ckt - million $)**	$166 - $195	$195 - $202	$177 - $199	$126 - $149	$157 - $173	$256 -	$157 - $160
q **Evaluated Cost Proxy Range (double ckt - million $)**	$208 - $277	$269 - $291	$266 - $299	$194 - $228	$210 - $237	$424 -	$231 - $283

Table 1

Summary of Technical Study Results

The evaluation techniques utilized in this study demonstrate that each reinforcement plan, with the exception of Plan 1c, is capable of supporting a simultaneous transfer of 3000 MW over the western and southern interfaces into Wisconsin. The Weston delta-P performance of Plan 1c (Salem – Fitchburg 345 kV) is slightly less than criteria which indicates that Plan 1c could not sustain a simultaneous import of 3000 MW without adding additional facilities to the plan.

Each of the evaluation techniques considered in this study were considered in isolation. In other words, the voltage stability transfer capability did not consider thermal limitations and vice-versa. The absolute transfer capability of each reinforcement plan is a function of all potential limitations including thermal, voltage, dynamic stability, and Weston delta-P. The following "radar-plot" attempts to capture how a different type of system limitation limits the transfer capability of each reinforcement plan.

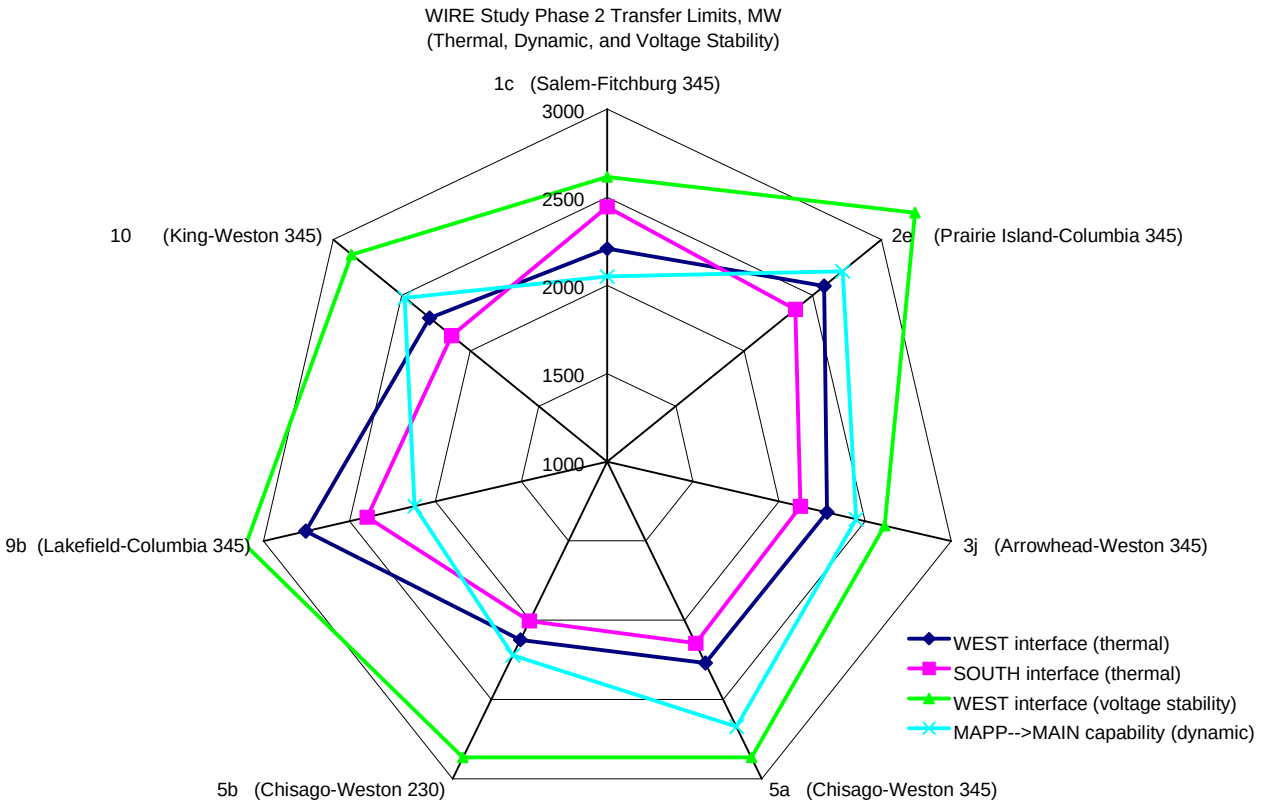


Figure ES- 2

Environmental Screening

An environmental screening for the various options was developed for WRAO by a consultant (Resource Strategies, Inc., or RSI) under the direction of representatives of the various member utilities, and with input from staff of the Public Service Commission of Wisconsin, Minnesota Environmental Quality Board and the Iowa Utilities Board. The report was developed from January 1999 to March 1999.

The intent of the screening was to provide a reconnaissance-level environmental analysis and description of potential transmission line study areas. The study areas were determined by using the most efficient routing from substation to substation and primary corridor sharing opportunities (major transportation or energy corridors) with generally a five-mile width. The study areas described in this report do not represent specific transmission line routes and alternative study areas might exist for each of these options which may have comparable economic and environmental feasibility. Within each of the study areas, several specific routes for a transmission line potentially exist.

This report provides a first glance of the potential study area the proposed system solution would occupy and primary environmental considerations within that study area that are most likely to influence a particular option's overall economic and siting feasibility. The report is useful to provide a visual review of study areas, a general review of major environmental issues that will need to be addressed and to begin communication between planning, engineering and environmental areas.

There were no comparisons done between the options analyzed. Comparisons are difficult to do at this stage because they would be largely subjective. Only general data is reviewed and this information needs to be evaluated along with other data (cost, performance, regulatory/permitting issues, etc.). Each of the options covers a large area of the region with various issues associated with the landscape the powerline would pass through. It is extremely difficult at this reconnaissance-level analysis to make any type of objective comparison of the information provided in the tables of the report.

The following table provides a summary of environmental considerations, opportunities and percentages of public land for each of the options and their segments. The percentage provided for corridor sharing with existing transmission assumes corridor sharing could be accomplished using either side by side construction or double circuit construction, unless otherwise noted.

More detailed information for each option is contained in Attachment B which contains the complete environmental screening. Each option segment is summarized in a table containing information that describes the study areas' length, land use, public lands, cultural resources and sensitive resources.

It should be noted that the locations of the transmission line and gas pipeline locations on the GIS (geographic information system) maps in the attachment may not be exact. For the most part, these facilities are depicted on the map in close proximity to their actual location on the landscape. However, corrections to any inaccuracies were not done due the difficulty and amount of time and labor needed to provide exact locations in GIS.

It should also be noted that the base case itself, upon which all of the reinforcements studied are based, requires significant additional facilities. The environmental impacts of the base case additions are outside the scope of this environmental screening analysis.

Segment	Length (Miles)	Public Lands	Considerations	Opportunities
1c Salem-Fitchburg (1)	77	2%	Upper Mississippi River crossing Urban and suburban Madison, WI Hilly Topography of SW Wisconsin	Corridor sharing with railroad, interstate highway, existing transmission—all intermittent. Corridor sharing with existing transmission: 10%
Salem-Fitchburg (2)	118	3%	Upper Mississippi River crossing Urban and suburban Madison, WI Hilly topography of SW Wisconsin	Corridor sharing of river crossing with existing transmission. Corridor sharing with existing transmission in Wisconsin and Iowa. Corridor sharing with state highway in Wisconsin. Total approximate and potential corridor sharing with existing transmission: 50%
Fitchburg-Rockdale	21	2%	Urban and suburban Madison, WI	Corridor sharing with existing transmission (side by side only) 100%
Fitchburg-North Madison	25	3%	Urban and suburban Madison, WI	Corridor sharing with existing transmission: 100%
2e Prairie Island-La Crosse 1	94	18%	Upper Mississippi River crossing Numerous wildlife refuges associated with the Mississippi River Urban and suburban La Crosse, WI	Corridor sharing with existing transmission, including river crossing. Corridor sharing with railroad. Total approximate and potential corridor sharing with existing transmission: 70%
Prairie Island - La Crosse 2	104	16%	Upper Mississippi River crossing Numerous wildlife refuges associated with the Mississippi River Urban and suburban La Crosse, WI	Corridor sharing with existing transmission and railroad. Total approximate and potential corridor sharing with existing transmission: 80%
La Crosse - Columbia	101	5%	Wisconsin River crossing Tourist and natural area attractions associated with Wisconsin Dells	Corridor sharing with existing transmission and Interstate Highway. Total approximate and potential corridor sharing with existing transmission: 20%
3j Arrowhead-Ladysmith	109	9%	Lac Courte Oreilles Reservation St. Croix National Scenic Riverway (Namekagon River crossing)	Corridor sharing with existing transmission, railroad and pipeline. Total approximate and potential corridor sharing with existing transmission: 60%
Ladysmith-Weston 1	119	1%	Urban and suburban Ladysmith, WI	Corridor sharing with existing transmission and state highway. Total approximate and potential corridor sharing with existing transmission: 50%
Ladysmith – Weston 2	92	4%	Urban and suburban Ladysmith, WI	Corridor sharing with existing transmission, pipeline and state highway. Total approximate and potential corridor sharing with existing transmission: 50%

Segment	Length (Miles)	Public Lands	Considerations	Opportunities
5a & b Chisago – Apple River	36	4.4%	St. Croix National Scenic Riverway (St.Croix River crossing)	Corridor sharing with pipeline and with existing transmission. Total approximate and potential corridor sharing with existing transmission: 40%
Apple River - Ladysmith	59	2%	Urban and suburban Ladysmith, WI	Corridor sharing with existing transmission and state highway. Total approximate and potential corridor sharing with existing transmission: 40%
Ladysmith-Weston 1	119	1%	Urban and suburban Ladysmith, WI	Corridor sharing with existing transmission and state highway. Total approximate and potential corridor sharing with existing transmission: 50%
Ladysmith – Weston 2	92	4%	Urban and suburban Ladysmith, WI	Corridor sharing with existing transmission, pipeline and state highway. Total approximate and potential corridor sharing with existing transmission: 50%
9b Lakefield - Adams	125	4%		Corridor sharing with highway and existing transmission. Total approximate and potential corridor sharing with existing transmission: 100%
Adams – Genoa	75	1%	Upper Mississippi River crossing	Corridor sharing with existing transmission: 100%
Genoa - Columbia	92	4%	Baraboo & Wisconsin Dells tourist attractions and natural areas Hilly topography of SW Wisconsin Wisconsin River crossing	Corridor sharing with existing transmission and interstate highway. Total approximate and potential corridor sharing with existing transmission: <5%
10 King-Eau Claire10 (1)	65	7%	Lower St. Croix National Scenic Riverway (St. Croix crossing)	Corridor sharing with highway and existing transmission. Total approximate and potential corridor sharing with existing transmission: 10%
King-Eau Claire (2)	69	9%	Lower St. Croix National Scenic Riverway (St. Croix crossing)	Corridor sharing with highway and existing transmission. Total approximate and potential corridor sharing with existing transmission: 100%
Eau Claire - Weston	91	1%	Urban and suburban Eau Claire, WI	Corridor sharing with highway and existing transmission. Total approximate and potential corridor sharing with existing transmission: 95%

Policy Criteria

In addition to the technical, economic and environmental evaluations previously described, there are several policy criteria that were considered in the selection of the preferred transmission plan. These policy criteria are:

Geographic Diversity
This criterion is an assessment of the ability of any given contingency to affect multiple facilities needed for reliability. Ideally, a new major interconnection between MAPP and MAIN would be located with enough geographic separation between it and the existing interconnection to avoid loss of both critical lines to a common problem, such as storms. Please see Attachment D for a discussion of the importance of geographic diversity.

Constructability
This criterion is an assessment of possible complications likely to affect existing system operation during the construction period of the new line. This would encompass items like the impact and timing of key line outages which may be required for construction, temporarily decreased transfer ratings of existing lines as a result of construction, and other such considerations. Existing lines which are in the study corridors of the proposed options are affected most, and the impact of the effects on those lines, along with the lines' importance to overall system operation, are the major determinants of constructability.

Political Ramifications of Routing
This criterion is an assessment of the extent to which an option is likely to raise concerns with various stakeholders, and the likelihood of being able to reasonably mitigate those concerns. This encompasses potentially controversial elements like river crossings, past reactions to attempts to locate electrical facilities in particular areas, political climate at different levels of government in study areas, and related matters.

Timing
This criterion focuses on the element of timing on two fronts -- regulatory process and construction. On the regulatory side, this is an assessment of the relative time that options would need to proceed through the necessary licensing processes. On the construction side, this is an assessment of how long it would take to physically construct the plan being considered with respect to the other options.

System Development Benefits
This criterion examines the relative abilities of the options to provide "building blocks" for future system enhancements. Some options may provide a better foundation for further system development to address pending future needs than other options, and will be better positioned for a longer term beneficial impact. Inclusion of a perspective on how the transmission system is likely to be operated in the future, as opposed to how it has been designed in the past and operates now in the present, is an important consideration.

Regional Reliability Benefits

This criterion is an assessment of the regional benefits associated with the options under consideration. This incorporates the relative abilities of options to address immediate focused regional needs, like local load serving, as well as more diffuse benefits like increased reliability for a larger area. This also includes a relative evaluation of benefits to MAPP, and to the MAPP-MAIN interaction and mutual system support on an overall regional reliability basis.

Multi-Jurisdictional Concerns

This criterion looks at issues related to the multiple jurisdictions involved with each option. This includes the impacts of multiple state/city/local governments with different concerns, multi-state regulatory processes with different timelines, multi-state environmental agencies and groups, and varying population attitudes and concerns.

Regional Economic Impact

This criterion looks at the impacts of the various options on the utilities involved. This includes not only the utilities whose service territories are impacted by the proposed construction, but also the utilities who would like to be involved from an ownership or other participation standpoint. Some utilities may be more willing or able than others to participate financially in the direct permitting and construction process. The key consideration is choosing an option which utilities are willing to build.

Summary of Recommendation

The WIRES phase II study effort identified seven transmission plans that would provide 3000 MW of simultaneous transfer capability into eastern Wisconsin. The WRAO incorporated the results of that study into a comprehensive review of each transmission plan that included environmental screening data and stakeholder input . It was the goal of that review to identify which transmission plan(s) provided the best balance among the evaluation criteria discussed in the previous section including such interests as performance, future flexibility, cost and potential environmental impacts, and ultimately make a final recommendation. The WRAO has identified one transmission plan which satisfies the evaluation criteria and meets the region's transmission system needs. The consensus and recommendation of the WRAO is to construct transmission plan 3j (Arrowhead-Weston 345kV). The WRAO also has identified transmission plan 5b (Apple River-Weston 230kV) as an alternate construction plan if plan 3J ultimately is not constructed.

Transmission plan 3j is a robust and flexible transmission configuration. It offers geographical diversity, low system losses, and the ability to meet much of the future needs of Wisconsin through transmission modifications or extensions solely within the state. Plan 3j involves several critical transmission system additions, upgrades, or operating guides that include:

- The construction of a new 345kV transmission line from the Arrowhead substation located in the Duluth, Minnesota area to the Weston substation located near Wausau, Wisconsin.
- The construction of a new 230kV transmission line from the Chisago substation located in Chisago County, Minnesota to the Apple River substation located near Amery, Wisconsin.[*]
- Conversion of the Oak Creek-Arcadian 230kV transmission line located in the Milwaukee area to 345kV.[*]
- The solution of the constraint at and around Plano-Plano Tap.*
- Rebuild the Kelly-Whitcomb 115kV transmission line located east of Wausau, Wisconsin.
- Numerous other extensive base case additions as shown in Attachment A.

Alternate transmission plan 5b is less robust and flexible than plan 3j, yet provides for the immediate needs of local load serving in northwestern Wisconsin and 3000 MW of simultaneous transfers into eastern Wisconsin. It offers low cost, relatively lower environmental impacts, and

[*] Several of these projects are required for local load serving as well as regional reliability.

could be in-service perhaps sooner than any other transmission plan considered. Plan 5b also involves several critical transmission system additions or upgrades that include:

- The construction of a new 230kV transmission line from the Chisago substation located in Chisago County, Minnesota to the Weston substation located near Wausau, Wisconsin.

- Conversion of the Oak Creek-Arcadian 230kV transmission line located in the Milwaukee area to 345kV.*

- The solution of the constraint at and around Plano-Plano Tap.*

- Rebuild the Kelly-Whitcomb 115kV transmission line located east of Wausau, Wisconsin.

- Numerous other extensive base case additions as shown in Attachment A.

The WRAO considered and weighed a myriad of variables and issues in forming its recommendation. The process required much discussion and cooperation. Many issues could not be simplified to mere numbers, but rather required the collective operational experience and judgement of the WRAO membership to resolve. Specific emphasis was given to the following areas:

- Interface Improvement: How well does the transmission plan meet the target of 3000MW of simultaneous transfers? To what degree does it improve system stability?

- Transmission Plan Cost: What are the up front costs to construct the plan?

- Doability: What are the potential environmental, societal and regulatory impacts and impediments associated with the transmission plan? What are the physical constraints for construction? Who is willing to construct? What might be the construction schedule?

- Third Party Impacts: What effect, if any, does the transmission plan have on other areas of MAPP/MAIN? Does it relieve existing transmission constraints or aggravate them?

- System Losses: How efficient is the transmission plan in moving energy around the regions system?

- Geographical Diversity: How well might the transmission plan perform when challenged by severe storms? What future flexibility does it provide?

Justification of Recommendation

The WIRE study team and the environmental study team did not identify any "fatal flaws" that would exclude any of the seven reinforcement plans from further consideration. Therefore, the WRAO considered the relative performance of the seven reinforcement plans along with a number of qualitative assessments to develop a recommended plan.

The WRAO recognizes that Plan 1c (Salem - Fitchburg 345 kV) did not meet all of the criteria established by the WIRE study team. Plan 1c (Salem - Fitchburg 345 kV) did not quite meet the criteria established for the Weston delta-P value which is a measure of the current "Arpin phase angle" problem. In addition, Plan 1c (Salem - Fitchburg 345 kV) did not exhibit robust dynamic stability performance with respect to the ¼ Hz. inter-area oscillation which causes the MAIN and MAPP system to "swing" against the remainder of the eastern interconnection. However, Plan 1c (Salem - Fitchburg 345 kV) is carried through the comparison process to demonstrate the differences between it and the remaining six plans.

Each of the five factors listed below were used in the evaluation of the seven plans. What follows is a description of each factor along with how the recommended plan, 3j (Arrowhead - Weston 345 kV), performed under each factor.

Interface improvement.

This factor considers each of the quantitative measures considered by the WIRE study group such as transfer capability, Weston delta-P performance, and dynamic and voltage stability performance.

Plan 3j (Arrowhead - Weston 345 kV) clearly met the minimum criteria established for transfer capability, dynamic and voltage stability, and the Weston delta-P criteria. While other plans contributed additional interface transfer capability above the established criteria, the WRAO found this incremental capability to be negligible and within accepted modeling tolerances. Plan 3j (Arrowhead - Weston 345 kV) demonstrated robust dynamic stability and voltage stability performance is acceptable.

Environmental and social impact

This factor considers several issues related to the ability to license and construct a new high voltage transmission line. Included are measures such as line length, potential for corridor sharing, proximity to population centers, environmental and jurisdictional impact, and river crossings. The WRAO recognizes that these measures are qualitative in nature. None of the transmission plans are devoid of the potential for environmental and social impacts.

After review of the environmental study work it was the judgement of the WRAO that Plan 3j (Arrowhead - Weston 345 kV) is reasonable in line length; offers significant potential for corridor sharing; and reasonably avoids population centers.

Construction cost

This factor is also based on the work of the WIRE study group. The WIRE study group identified a range of construction cost estimates based on the study areas determined by the environmental analysis team. The construction cost estimate ranges also considered double circuit opportunities. The WRAO recognizes that although construction cost estimates are useful when considering the relative cost of each plan, the ultimate construction cost of any system reinforcement is dependent on a number of factors including construction type, conductor size, routing (terrain differences), double circuit requirements, mitigation requirements, etc.

Plan 3j (Arrowhead - Weston 345 kV), while not having the lowest construction cost, was deemed to have reasonable costs based upon the performance under the other factors.

System losses

The WIRE study group evaluated the relative electrical loss profiles of each reinforcement plan in terms of capacity and energy. Each reinforcement plan changes the electrical characteristics of the regional transmission system differently which results in different loss profiles. The WRAO considered each reinforcement plans' ability to minimize on-peak losses and yearly energy losses.

Plan 3j (Arrowhead - Weston 345 kV) clearly was the most superior performing plan with respect to this factor.

Geographical diversity

This factor considers the geographical separation of each reinforcement plan from the existing western interface facilities (the King – Eau Claire – Arpin 345 kV). Of primary concern to the WRAO is the ability to guard against common-mode failure of the entire interface. For example, the greater the geographical separation between major transmission facilities, the less likely it is that one single event, such as a tornado, will result in the loss of both facilities.

In terms of geographical diversity, the WRAO considers Plan 3j (Arrowhead - Weston 345 kV) to be a superior performing plan because of its physical separation from the existing King – Eau Claire – Arpin 345 kV line.

Plan 3j (Arrowhead - Weston 345 kV) demonstrates superior loss characteristics, provides for geographical diversity, has the potential to avoid significant environmental issues and is cost competitive with the alternative plans. From a technical performance standpoint, Plan 3j (Arrowhead - Weston 345 kV) meets all of the criteria established by the WIRE study team including the Weston delta-P (the current Arpin phase angle problem), dynamic stability, and voltage stability. Plan 3j (Arrowhead - Weston 345 kV) also has the ancillary benefit of demonstrated local load serving benefits in the north-central area of Wisconsin (WPS's Upperwestern area).

Plan 3j (Arrowhead - Weston 345 kV) will provide a significant improvement to the transmission system in the MAIN and MAPP regions and provide crucial support to an interface that is limited

by thermal, voltage, and dynamic stability constraints. Relative to the other reinforcement plans considered, plan 3j (Arrowhead - Weston 345 kV) is robust, minimizes environmental concerns, minimizes system losses, and provides for exceptional geographical diversity. For these reasons, the WRAO recommends that the transmission reinforcements within Plan 3j (Arrowhead - Weston 345 kV) are in the best interest of regional reliability and transmission interface expansion.

As demonstrated numerous times in the last several years, the opening of the existing Western Interface places the remaining electric transmission system in a precarious position. Formal application, regulatory approvals, and construction for Plan 3j should be expedited to reduce the risk of a widespread system outage.

Chisago Electric Transmission Line Project In the Base Case

The report developed by the WIREs group assumed the construction of the Chisago Electric Transmission Line Project ("Chisago Project"), as proposed in the September 6, 1996 filing of Dairyland Power Cooperative and Northern States Power Company, for all plans other than plan 5a (Chisago-Lawrence Creek-Apple River-Weston 345 kV Line). Such inclusion is consistent with good planning practice, as a reference point must be established for all planning studies. Such inclusion is not intended to suggest a presumption of favorable regulatory review, but is simply based on a knowledge of what is filed and what is assumed to be needed for provision of service to local loads. The assumption of need is based on the results of the Wisconsin Advance Plan process and, in particular, Advance Plans 7 and 8.

The fact that one of the evaluated plans, plan 5a (Chisago-Lawrence Creek-Apple River-Weston 230 kV Line), includes the proposed Chisago Project facilities is no accident. The Interface Collaborative Committee (consisting of all major Wisconsin electric utilities) in 1996 endorsed the filing of the Chisago Project, understanding that it is driven primarily by a need to improve the reliability of load serving in northwestern Wisconsin and east central Minnesota. The Collaborative also was aware that there is an ancillary benefit to the transfer capability into eastern Wisconsin resulting from the construction of the line. Booth & Associates, the consultant engaged by the Minnesota Environmental Quality Board (MEQB) to review the need for the Chisago Project, noted that the Project, as proposed, is inadequate as a long-term solution to the shortage of transfer capability into eastern Wisconsin. The inadequacy for meeting the ultimate transfer capability goals was also documented by the applicants in studies submitted in support of the Chisago Project applications. Extending the project from Apple River to Weston, as proposed in plan 5b, provides the additional transfer capability necessary to meet the criteria set forth for the WIRE study.

Testimony has been provided in the Chisago Project dockets that extending the project beyond Apple River may be necessary at some point in the future to maintain the benefit of the Project as load continues to grow. The WRAO did not undertake analysis of the specific long term short-comings of the Project for load serving purposes. The project, as reviewed and approved by the Interface Collaborative Committee, however, did not extend beyond the Apple River Substation. Transmission plans submitted for regulatory review are based on the best information at the time. The critical need being addressed by the WIREs Phase I and II studies was emphasized after the energy shortages experienced in eastern Wisconsin in1997, despite the fact that various bulk transfer options for eastern Wisconsin have been under study for more than ten years

None of the proposed plans, with the exception of 5a, eliminates the need for the Chisago Project as proposed. With the exception of option 5b, none of the projects, even if they could be modified to provide benefit to northwestern Wisconsin load serving, could be constructed quickly enough to address the immediate need for improvements to load serving in western Wisconsin. Plan 5a is problematic from a load serving perspective because it precludes the Chisago Project (that is, the load serving project proposed by Dairyland and NSP) from being constructed, and plan 5a itself could not be constructed quickly enough to address the immediate

load serving need. Consequently, the Chisago Project is an integral system reinforcement of every plan presented (except plan 5b as previously noted) and is also critical for local load serving. It is therefore important that it proceed. Plan 5a is not receiving further consideration, in part, because it does not provide in an appropriate time frame for the need to improve the reliability of load service in northwestern Wisconsin and east central Minnesota.

Document Content(s)