

# **Attachment E**

## **Stakeholder Comments**



PO BOX 815 • WINNIPEG, MANITOBA CANADA • R3C 2P4  
Telephone / N° de téléphone : (204) 474-3113  
Winnipeg 99  
Fax / N° de télécopieur : (204) 477-4606  
Email Address: rwmazur@hydro.mb.ca

PROUD SPONSOR OF THE 1999 PAN AM GAMES

1999 05 28

Mr. D. Landgren  
Chair, WRAO  
Wisconsin Electric Power Co  
231 Michigan Street,  
P.O. Box 2046  
Milwaukee, Wisconsin 53201

**SUBJECT: TPSC Comments – WRAO Draft Report**

Dear Mr. Landgren

The MAPP Transmission Planning Subcommittee (TPSC) has voted unanimously to support the WRAO conclusion that Plan 3J (the Arrowhead-Weston 345 kV line) is the best plan to provide increased transfer capability from the MAPP region into Wisconsin. Plan 3J meets all the technical criteria, has the lowest system losses, provides geographic diversity, and is cost competitive with other alternative plans. The TPSC agrees that this proposed interconnection will provide a significant improvement in the transmission reliability of the MAPP and eastern Wisconsin regions, and will provide a suitable "building block" for future transmission enhancements.

The TPSC has completed an analysis examining the impact of Plans 2E, 3J, 5A, 5B and 10 on MAPP facilities. The analysis performed was a dc load flow contingency analysis (TLTG) using 21 source-sink combinations. The results are tabulated in the attached spreadsheet. The results show there may be other MAPP Member facilities impacted by one or more of the plans in addition to those identified in the WIRE Phase II study. Many of these impacted facilities may also be a concern in the base case without the WIRES plans. A few may be valid. The TPSC proposes that we continue to work with the WRAO and the WIRE study group as the project proceeds into the design phase to ensure that all impacted facilities are validated and mitigated.

With regard to the draft report, we suggest that the discussion on Policy Criteria should be expanded to include the WRAO assessment of how each plan rated against these criteria. This was our intent when we provided the draft "pro/con" tabulation at the April 14th WRAO meeting.

On behalf of the TPSC, I wish to commend the WRAO and the WIRE Study group for the excellent and comprehensive analysis conducted to support your selection of a preferred plan.

We hope to continue to work with you to promote a successful implementation of the Arrowhead to Weston 345 kV line.

Yours truly,

Ronald W. Mazur, P.Eng.  
Chair, MAPP TPSC

Att.

Company	POR/POD Set #'s	FACILITIES NOT CONSIDERED AS LIMITS (LOCAL PROBLEMS)	WIRE Plan 2E totals	WIRE Plan 3J totals	WIRE Plan 5A totals	WIRE Plan 5B totals	WIRE Plan 10 totals	Common to all Plans	Concentrated POR	Owner utility verification results	Contingency	Set #	POR	POD
DPC	2,15,4,3	Alma - Wabaco 161 kV	4	4	4	4	4	c		LLR is called: Hastings - Alma Study in process	Maple Leaf - Byron 161 kV (61228-61230)	1	POR	
DPC	2,15,4,3,11	Rochester - Wabaco 161 kV	4	5	4	5	5	c		LLR is called: Hastings - Alma Study in process	Byron - Prairie Island 345 kV (61235 - 61604)	1	TC GEN	NSP-WEP/WEC
MPC	8,19	Drayton - Donaldson 115 kV	2	2	2	2	2	c	Dorsey	Needs to be reconductored: Overloads thermal limit of 198 MVA	Drayton - Prairie 230 kV (60752 - 60755)	5	TC GEN	NSP-WPS
NSP	1,5,13,4,16,2,7,12,6	Adams 345/161 kV transformer	5	8	7	8	8	c		Overloads 130% rating (390 MVA) for Set#s 1, 13, 16	Adams - Hazleton 345 kV (61601 - 62050)	13	TC GEN	NSP-WPL
NSP	5,2,15,4,3,11,	Eau Claire - 345/161 kV transformer	6	4	4	4	3	c		Overloads 130% rating (390 MVA) for Set #s 2, 15 (Needs further analysis)	Eau Claire x#2 345/161 (61853 - 61854)	20	TC GEN	Dorsey
NSP	1,5,13,4,3,12,11,16	Eau Claire - Wheaton 161 kV*	8	6	3	3	3	c		Need to reconductor	King - Eau Claire 345 kV (61695 - 61853)	2	EAUCLAIRGEN	NSP-WEP/WEC
NSP	2,15	Holcomb - Cornell 115 kV	2	1	2	2	2	c	EauClair Gen	Increase rating from 77 MVA to conductor rating (116 MVA)	Hydro Lane - Jim Falls 115 kV (61873 - 61882)	15	EAUCLAIRGEN	NSP-WPS
NSP	2,15	Hydro Lane - Jim Falls 115 kV	2	2	2	2	2	c	EauClair Gen	400 Amp CT @ Wasota (80 MVA); needs to be increased to conductor rating (	Jim Falls - Anderson 115 kV (61862 - 67804)	4	WPPI-WEST	NSP-WEP/WEC
NSP	4,3	Pine Lake 161/115 kV transformer	1	1	2	1	1	c	WPPI-West	Overloads 130% rating for Set #3	Pine Lake - WIL R T 115 kV (61863 - 61878)	3	WPPI-WEST	NSP-WPS
NSP	21	Souris - Mallard 115 kV	1	1	1	1	1	c	Leland	Needs to be reconductored: Overloads thermal limit of 112 MVA	Coal Tp - McHenry 230 kV (61504 - 61507)	7	BOSWELL	NSP-WEP/WEC
NSP	11,1,5	Wheaton - Elk Mound 161 kV*	3	1	1	1	1	c		Need to reconductor to 445 MVA	King - Eau Claire 345 kV (61695 - 61853)	12	BOSWELL	NSP-WPS
NSP	4,3	Wheaton Tap - Wheaton 161 kV*	2	2	2	2	2	c	WPPI-West	Will be reconductored to 445 MVA in 2001 no matter what plan is selected	King - Eau Claire 345 kV (61695 - 61853)	6	BOSWELL	NSP-WPL
OTP	8,19	Warsaw - Donaldson 115 kV	2	2	2	2	2	c	Dorsey	Need to resag the 477 ACSR conductor line	Drayton - Prairie 230 kV (60752 - 60755)	8	DORSEY	NSP-WPS
												19	DORSEY	UPA-CCS
DPC	5,13,1,12,16	Barron - Apple River 161 kV*	1	5	0	0	0			Change the CT rating 209 MVA up to conductor rating of 279 MVA	King - Eau Claire 345 kV (61695-61853)	9	LELAND	NSP-WEP/WEC
IPW	11	Limecreek - Emery 161 kV	0	1	1	1	1		Alma	Needs to be reconductored higher than existing 202 MVA conductor rating	Adams - Hazleton 345 kV (61601 - 62050)	10	LELAND	NSP-WPS
MP	5	Arrowhead - Forbes 230 kV**	0	1	0	0	0		TC Gen	MP will study conductor size in detail when analyzing details of 3J	Blackberry - 96L tap 230 kV (61314 - 61325)	21	LELAND	Dorsey
MP	5,12	Arrowhead 345/230 kV transformer**	0	2	0	0	0			NEW FACILITY - MP will study in detail correct sizing of new Arrowhead trans	Arrowhead x#2 (61315 - 61318)	11	ALMA	MGE
NSP	16	Benton - Granite City 115 kV***	0	1	0	0	0		Boswell	New Benton - St. Cloud 115 kV line tapping into Granite City in 2001	West Cloud - MEI Int 115 kV (61665 - 61668)	14	LARAMIE	NSP-WEP/WEC
NSP	5,12,6,16	Chisago-Lawrence Crk 115 kV **	0	0	4	0	0			NEW FACILITY - NSP will study in detail for correct sizing if needed	Chisago - Law Crk 345 kV (61707 - 61804)	16	SHERCO	NSP-WEP/WEC
NSP	16	Granite City - XRDS 115 kV***	0	1	0	0	0		Sherco	New Benton - St. Cloud 115 kV line tapping into Granite City in 2001	Benton - Granite City 115 kV (61648-61651)	17	SHELDON	AECI-NPPD
NSP	5,1,13,7,16	Lawrence Crk 345/115 kV transformer (5A) **	0	0	1	5	0			NEW FACILITY - NSP will study in detail for correct xf sizing if needed	Chisago - Lawrence Creek 345 kV (61707-61804)	18	LANSING	NSP-WPL
NSP	16	Sauk River - St Cloud 115 kV***	0	1	0	0	0		Sherco	New Benton - St. Cloud 115 kV line tapping into Granite City in 2001	Benton - Granite City 115 kV (61648-61651)			
NSP	16	Sauk River - W Cloud 115 kV***	0	1	0	0	0		Sherco	New Benton - St. Cloud 115 kV line tapping into Granite City in 2001	Benton - Granite City 115 kV (61648-61651)			
NSP	15	T-Com - Wfen 115 kV*	1	0	0	0	0			Rebuilding in process up to 300 MVA	Eau Claire x#3 345/161 kV (61853 - 61854)			
NSP	16	W. Cloud - MEI INT 115 kV***	0	1	0	0	0		Sherco	New Benton - St. Cloud 115 kV line tapping into Granite City in 2001	Benton - Granite City 115 kV (61648-61651)			
NSP	16	XRDS - MEI INT 115 kV***	0	1	0	0	0		Sherco	New Benton - St. Cloud 115 kV line tapping into Granite City in 2001	Benton - Granite City 115 kV (61648-61651)			
NSP /DPC	13	Marshland - Alma 161 kV	1	0	0	0	0		TC Gen	Increase CT rating 272 MVA to conductor rating = 446 MVA	Prairie Island - LaCrosse 345 kV (61604 - 61858)			

Notes: Facilities in the "Common to all Plans" may be local problems with out any of the WIRE Plans installed.

\* These facilities were identified in the WIRE study

\*\*Facilities sizing will be determined during the detail analysis of the Plan that is constructed.

\*\*\*Benton - Granite City 115 kV line will be installed regardless of Plan that is constructed.



# CRVC Comments on The WRAO Report

## **Introduction**

The WRAO Report and the underlying study have much to recommend. However, there are a number of improvements that could and should be made. Specifically, the report (and the underlying studies where appropriate) should be augmented to:

1. Provide a sufficiently clear definition of the needs for, and limitations to, regional MAPP to MAIN exports as presently being experienced and as anticipated in the future.
2. More comprehensively consider and compare the full range of solution options including, for example, installing new gas fired generation within the Eastern Wisconsin and Northern Illinois market area. That requires that integrated generation and transmission planning be studied with anticipated new generation appropriately sized and sited included in the model.
3. Clearly establish and document definitive selection criteria and demonstrably base the selection and recommendation upon these stated criteria.

Finally, the report expresses concerns about major disturbances, cascading, impact upon "flow gate capability", etc. If these concerns are real they should be explicitly studied, the results analyzed and explicitly included in the selection criteria. However, if they are not material, all discussion of them should be excluded from the report. At a minimum, the report needs to clearly document whether any concerns expressed have been analyzed and if they in any way influenced the selection of the Arrowhead 345 kV line. (Note some of the material requested in this paragraph can be inferred by statements in the report and material not in the report. More explicit statements would be highly desirable.)

## **Future Generation**

The studies should include projected future generation more clearly and include these projected generators within the model. Decommissioning plans for existing generators should also be included in the model. The generation projections and the associated studies should encompass the anticipated lifetime of the recommended transmission line. (Note we are well aware of the inherent uncertainties in any generation forecast; however, an implicit forecast of zero by not including likely new generation the model surely does not even rise to the level of an educated guess.)

More aggressive construction of new generation in the Eastern Wisconsin and Chisago Market area should be explicitly considered and studied as a solution alternative to replace the need for any new transmission line. Gas market projections indicates both availability and competitive prices, and gas generation has relatively short installation time frames and small environmental

footprints. Comparison of the relative effectiveness of the "generation alternative" during major system disturbances would be particularly edifying.

### **Decision Criteria and Selection process**

It would materially strengthen the report if there were explicit continuity from the underlying assumptions, through the study results to a decision based upon expressly stated criteria. It is possible (likely incorrectly) to read into the present report and associated selection of the Arrowhead 345 kV line some hidden agenda. A direct correlation from study results applied to decision criteria to the final decision would remove the possibility of misunderstanding. At a minimum, the report should be updated to clearly document what the major reasons were for selecting the Arrowhead 345 kV line over alternatives that, on balance, appear to perform equally well.

The CRVC would like to thank you for the opportunity to make these comments on the WRAO Report.

Sincerely,  
Thomas R. Martin, CRVC President

---

## Stakeholder Comments:

Scott Greene, P.E. , Ph.D.  
Senior Engineer  
L. R. Christensen Associates

Robert Camfield  
Senior Economist  
L. R. Christensen Associates

---

We appreciate the opportunity to provide comment for this report to the WRAO on transmission system reinforcement in Wisconsin. In general, we agree with and support the study represented in this report. However, we believe that this report and the subject of transmission development raise important issues that need to be addressed in the near future.

The electric power industry in the Midwest is currently in a state of transition. Elsewhere, restructuring of the electric power industry has led to variation in generation and power flow patterns different from those previously anticipated by planning efforts. Thus, we maintain that it is very important to consider how the transmission improvements would affect and be affected by the future electricity market.

Associated with each improvement is a unique set of costs and benefits. The decision to advance a particular development plan should be justified by fair examination of these costs and benefits. Since the future market response ultimately determines the benefits, the analysis should take into consideration the response of the market. The impacts of the planned transmission improvements and associated market behavior on the security of the power grid can then be quantified.

Improvements to the transmission system generally increase the performance and security of the overall power network. While the entire State benefits through increased efficiency and reliability of the power grid, an improvement can benefit some market participants more than others, affecting the relative advantage each participant holds in the market.

Specifically, the construction of new transmission to relieve the constraints on west to east transfer into the State puts generation within the State in direct competition with generation to the west for serving demand to the east. As a result, the value of generation assets located in the eastern portion of the State decreases and the value of generation assets in the west increases. Thus, one likely consequence of constructing the new transmission line is an increase in the amount of new generation proposed to the west of the east-west

Wisconsin interface. Note that currently, a large proportion of new generation has been proposed to the east of the east-west Wisconsin interface.

This report focuses on the improvements to system transfer capability realized by construction of a new transmission line. The motivation for increasing system transfer capability is to improve the reliability of the bulk electric power system. However, the reliability and efficiency of the bulk electric power system is affected by a variety of physical, operational, and institutional factors. Although the construction of a new transmission line would certainly have a significant impact on increasing system reliability, complementary solutions for increasing reliability exist and have not been considered in this report. The most cost-effective increase in system reliability can be achieved with the coordinated implementation of several types of improvements. Subsequent studies are warranted that examine the benefits derived from the following types of improvements:

Implementation of time of use (TOU) and real time pricing (RTP) programs. TOU and RTP programs expose consumers to the higher costs associated with servicing demand during peak times in exchange for lower prices during off peak times. The response to increasing prices is often a reduction in demand. The reduction of demand during peak periods decreases the requirement for transfer capability to maintain reliability criteria and increases the reliability of the bulk power system. One relative benefit of RTP and TOU programs is that reliability can be improved with minimal environmental impact.

Local transmission improvements. Transfer capability is limited by constraints on individual components that sometimes can be resolved with local remedies. For example, the Arpin-Eau Claire phase angle problem could possibly be relieved by application of a switched series reactor or another device that limits the magnitude of the instantaneous power change experienced at the Weston power plant during re-closing of the Arpin-Eau Claire line. Alleviation of this constraint would then permit the Arpin-Eau Claire line to be operated nearer its full thermal limit, increasing transfer capability into the State.

Another application arises from transfers limited by voltage or dynamic constraints. Under certain circumstances, the inter-area transfer of power can be limited by voltage considerations such as unacceptably low voltages, unacceptable reactive power reserves, and proximity to voltage collapse. Implementation of local solutions such as installation of switched capacitors or other sources of reactive power support can alleviate these constraints. In the case of dynamic limitations, performance can sometimes be improved by adjusting existing controls or with the addition of control devices such as Power System Stabilizers. Although local solutions generally provide limited benefits, these projects are potentially of lower cost and can be implemented sooner than construction of new high voltage transmission lines. The WRAO, in conjunction with the MAPP and MAIN committees currently undertaking activities in these areas, should identify local solutions that can provide immediate reliability benefits.

Institutional arrangements. Use of the transmission network, and hence system reliability, is affected by institutional arrangements. It is possible that the existing transmission system can be utilized more efficiently and with greater reliability by altering the present institutional arrangements. For example, the operation of generation near the east-west interface

affects transfer capability, and requires coordination between two control areas. It is conceivable that this coordination could be facilitated if the interface was internal to a single operational entity.

For another example, note that the LOLE computation that motivates the requirement for increased transfer capability (Appendix C) would yield different results if generation in eastern Minnesota was included as part of the internal system generation. Similarly, CBM and ATC computations vary as boundaries are redrawn. A major issue to address in the development of the Regional Transmission Organization (RTO) in Wisconsin is the effect of geographical boundaries and control areas on system operations, efficiency, and reliability.

Additional generation. Additional transfer capability improves system reliability only if there is likely to be generation available elsewhere to provide the transfer of power. Thus efforts to improve reliability by increasing transfer capability must account for the growth of demand and generation in the areas to which transfer capability is being increased. Appendix C of this report computes the LOLE corresponding to two scenarios concerning the development of new generation within the State. If the development of new generation in the State exceeds these forecasts, the LOLE and hence the requirement for new transfer capability would be reduced. On the other hand, if the development of new generation out of the State is inadequate, increased transfer capability will be ineffective for improving reliability. Simply put, new generation must be built somewhere. The need for new transfer capability to improve reliability can be effectively reduced by the development of sufficient new generation within the State.

We appreciate the diverse perspectives and cooperation represented by this report. Thank you again for inviting us to participate in this process.

June 3, 1999  
Wisconsin Department of Transportation

Dale J. Jaldige, Chair, W-7R-0

ATTENTION:  
Joel Gaughan  
Wisconsin Electric Power Company  
231 W. Wisconsin Street  
P.O. Box 204  
Milwaukee, WI 53201

Director of Transportation Infrastructure  
Development  
Bureau of Environment  
4802 Shboyga Avenue, Room 451  
P.O. Box 196S  
Madison, WI 53707-965  
Telephone (608) 266-0099  
Facsimile (FAX): (608) 266-7811

Dear Mr. Landgraber:

We have completed our review of the Draft W-7R-0 Report and apologize for our delay in sending our comments to you. We could determine no direct effects to transportation facilities under our jurisdiction from any of the alternatives except our continuing concern about the use of our right of way for transmission lines. You will need to contact and obtain a permit from our District Offices where you contemplate using or crossing the right of way on State Trunk Highway located within their District boundaries. I have attached a map of our District boundaries.

We also realize that there is continued controversy about crossings of the St. Croix River. We believe that whatever the outcome of these controversies, we will be able to develop a solution that is acceptable to Wisconsin taxpayers and ratepayers.

Thank you for the opportunity to review and comment on this draft report.

Sincerely,

Carol D. Caltsball, Director

DT14S4

**DISTRICT 8**

Eugene McDonald, Director  
 1701 N. 4th St.  
 Superior, WI 54880-1068  
 (715) 392-7925  
 FAX: (715) 392-7863

**DISTRICT 7**

Daniel Graesser, Director  
 Hanson Lake Road  
 Rhinelander, WI 54501-0777  
 (715) 386-3490  
 FAX: (715) 365-5780

**DISTRICT 6**

Donald Gutkowald, Director  
 718 W. Clairmont Ave.  
 Eau Claire, WI 54701-6108  
 (715) 836-2881  
 FAX: (715) 836-2807

**DISTRICT 5**

Joe Olson  
 Alan Gorman, Director  
 3350 Mormon Coulee Rd.  
 LaCrosse, WI 54601-8787  
 (608) 785-9022  
 FAX: (608) 785-8969

**DISTRICT 4**

Richard Bonneville, Director  
 2610 Industrial St.  
 Wisconsin Rapids, WI 54495-9021  
 (715) 421-8350  
 FAX: (715) 423-0334

**DISTRICT 3**

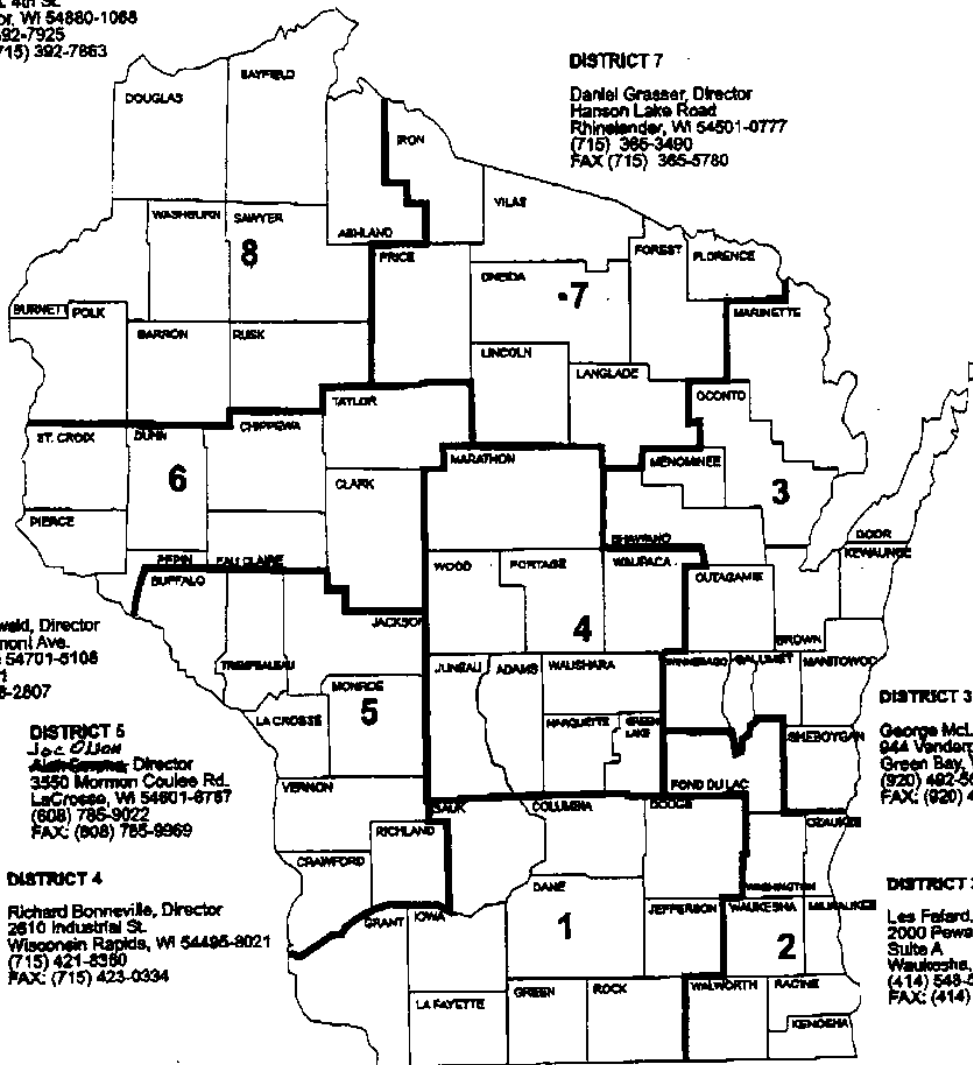
George McLeod, Director  
 944 Vandeventer Way  
 Green Bay, WI 54324-0080  
 (920) 482-5643  
 FAX: (920) 492-5640

**DISTRICT 2**

Les Fafard, Director  
 2000 Pewaukee Road  
 Suite A  
 Waukegan, WI 53187-0798  
 (414) 548-8902  
 FAX: (414) 548-5662

**DISTRICT 1**

Thomas Carlson, Director  
 2101 Wright Street  
 Madison, WI 53704-2383  
 (608) 246-3600  
 FAX: (608) 248-3800



MINNESOTA

DEPARTMENT OF PUBLIC SERVICE  
MAY 28, 1995

Dale Langren, Chairman Wisconsin Reliability Assessment Organization  
Joel Gaughan 231 West Michigan Street PO Box 2046 Milwaukee, Wisconsin 53201

RE: Comment on WRAO Report

Dear Mr. Langren:

The Department of Public Service appreciates the opportunity to provide comments on the Wisconsin Reliability Assessment Organization (WRAO) draft report. As the lead energy policy agency for the State of Minnesota, the Department intends to be fully engaged in the discussion and development of policy issues related to the bulk electric supply system. We recognize that the bulk electric system is an integrated entity that has interstate planning requirements and interstate impact from an individual state's policy and planning decisions. The Department supports a regional approach to the development of policy and long range plans related to the bulk power supply system.

We recognize that there will be other forums in which to address the substantive elements of the WRAO report content and conclusions. We are unable at this time to determine which of the options studied represents the best plan for the entire region. The Department finds that providing detailed policy perspectives on all the information and conclusions in the draft report is not possible in the short time frame that the WRAO has made available for stakeholder comment. For example:

There is significant new material in the draft, especially in Appendix C, that requires more study before a complete analysis can be provided.

Substantive material was not included in the draft, such as the WIRES group performance results table. Therefore, the absence of material such as the WLS group performance results and the complete WIRIS data is a loss.

Very truly yours,  
Dale Langren, Chairman  
Wisconsin Reliability Assessment Organization  
231 West Michigan Street  
PO Box 2046 Milwaukee, WI 53201  
(617) 297-1959 fax (617) 297-1757  
C

Dale Langren  
March 28, 1999  
Page 2

stakeholders from having equal access to data that the WRAO used to inform its recommendations.

Finally, additional study of other performance characteristics of the various options, that examines potential regional impacts, may be necessary to evaluate and determine a preferred regional plan.

The Department applauds the WRAO for opening up its WIRES group technical study to participation and advisory input from the Department technical staff and other regulatory staff in the various states. The Department wants to emphasize that while we participated in the WIRES group discussions, the fact of our participation should not result in an interpretation that the WIRES reports are representative of official Department position or analysis. The Department supports the continued use of interstate and inter utility technical study groups such as the WIRES effort. This WIRES study effort was unprecedented in the geographic reach of its participants and the degree of electronic information transfer that allowed for its quick and comprehensive study scope.

The following paragraph of comments is provided with the expectation that you should consider that it is provided to you by the DPS Chicago Project Advocacy Team.

For clarity purposes, the WRAO draft report as presented should be revised to better reflect the role of the Chisago project in the base case (Reference pages 2-27). The WIRES Phase 1 report (see Section 4.3) indicates that Chisago was introduced into the base case because it was identified as a preferred alternative as determined in the Wisconsin Advance Plan 8 reports. As such, it should be recognized as a proxy for one of many alternatives presented in those reports as a solution to perceived local area problems. There has been little analysis done to date to demonstrate the performance of the various options without the Chisago facility (or its equivalent) in the base case model. The one reinforcement option that was studied without the Chisago project, option 3J, appears to be able to meet the 2000 MW transfer requirement thermal limit criteria without the Chisago project (see MEQB Docket Exhibit #85). It has not been shown that the Chisago project is a

precondition for the reinforcement alternatives presented by

necessary part the WRAO, the Department thanks the WRAO for providing the opportunity to comment on its report. We remain committed to working with all stakeholders involved to facilitate the evolution of a more reliable and socially beneficial bulk electric power supply system.

Sincerely,

~E ~C~AUD  
SENIO~ ENGrNEERIN~ SP~CIALIST

MM/jl

Mid-American Power, LLC

May 26, 1999

Mr. Dale Landgren  
Wisconsin Electric Power Company  
P. O. Box 2046  
Milwaukee, WI 53201-2046

Dear Mr. Landgren:

MAPLLC believes the WRAO's recommendation to build the Arrowhead-Weston 345 kV line is a good first step toward improving Wisconsin's transmission import capability. The WIRES study shows that this new transmission line will alleviate the existing problems on Wisconsin's western transmission interface related to import capability and loop flows from the South.

MAPLLC believes the recommended project is only one step in a continuing effort which is required to assure a satisfactory solution to meet the electric reliability and economic needs of the Upper Midwest. All projects need to mitigate environmental concerns to the maximum practicable extent.

Developing Northern Illinois Market We encourage both the WRAO and the PSCW to continue analysis to evaluate how the Wisconsin transmission system (including the Arrowhead-Weston Project) will perform for a generation market developing in Northern Illinois.

MAPLLC believes the conditions are right for a generation market developing in northern Illinois due to the convergence of: a deregulated market in Illinois, developers buying existing utility power plants, continued reinforcement of natural gas pipelines into the Chicago market, and the emergence of an electric hub. (Please see our letter of January 22, 1999.) As a demonstration of the developing market, approximately 375 MW of merchant plants are now under construction, and an additional 1,045 MW of merchant plants are proposed, in Illinois and Missouri.

This data suggests a paradigm shift from "Wisconsin always buys from the West" to "Wisconsin will buy from the West and South."

WPS Power Development, Inc.  
677 Baeten Road Groen Bay, Wisconsin 54304  
Telephone: 920-490-6040 Fax: 920-490-5999 E-Mail: POLPOWR@pdi.wpsr.com

Mr. Dale Landgren  
May 26, 1999  
Page 2

Economics As Well As Reliability The W1 transmission system not only has to provide for delivery of power into Wisconsin but also for transfer of power through Wisconsin. In the event Canadian hydro exports to the U.S. are reduced or curtailed, coupled with the continued load growth in MAPP the transmission system will be required to deliver large amounts of power from Chicago to Minneapolis and from Chicago to Wisconsin. Additional analysis is needed to assure that Wisconsin's transmission system can handle both.

Further analysis is needed to determine Wisconsin's commercial transmission import capability. The study to date concentrated on reliability and thus only evaluated the peak hour. As pointed out in MAPLLC's February 18, 1999 letter, numerous system conditions need to be evaluated to assure adequate transmission for use by the marketplace.

The WIRES study documented a need to import 3000 MW into Wisconsin for reliability, historic parallel path flows, and multiple contingencies needs. MAPLLC believes it is reasonable to assume that Wisconsin should be able to import an additional 2500 MW of energy during peak times when considering economics as well as reliability. In addition, by the WIRES method for determining the 3000 MW level, import capability for reliability alone will grow with the load. Since the generation market can develop 2-3 times faster than the associated transmission improvements required to support it, the Wisconsin transmission system must be robust enough to provide adequate transmission import capability regardless of when and where the generation market develops.

Conclusion In summary, MAPLLC believes continuing analysis of Wisconsin's transmission system is needed. Not only to ensure adequate reliability during the peak hour, but also to ensure access to competitive priced electric energy regardless of where or what time of day or year that market develops.

MAPLLC reiterates its offer to actively participate in the continuing analyses. As suggested by your comments in earlier stakeholder meetings, it is now time for MAPLLC and other interested merchant plant developers to actively join the process.

For your convenience we have attached as part of these comments on the WIRES Report the previous nine letters from MAPLLC to WRAO and PSCW dealing with the WIRES study and WRAO stakeholder processes, as well as the responses we have received.

Thank you for the opportunity to comment.

Sincerely,

~ <~ c~C~

Richard J. Suslick  
Director

RJS/tjs  
Attachments

cc: Mr. James D. Loock / PSCW  
Mr. Dave Grover / NSP

Mr. David Barger / PSCW  
Mr. Chris Plante / WPS  
Ms. Patricia McCormack / PSCW  
Mr. Larry Borgard / WPS  
Mr. Kevin Cronin / PSCW  
Mr. Tom Smies / WPS  
Mr. John Feit / PSCW

N:\grnup~pdi\rjsUand~ren.mla99

677 Baeten Road Green Bay.Wisconsin 54304  
Telephone: 9~0 490 6040 ~x: 920 ~90 5999 EÄMail: pdipower~pdi.wpsr.com

June 12. 1998

Mr. David Barger  
Public Service Commission of WI  
610 North Whitney Way  
PO Box 7854  
Madison, Wisconsin 53707-7854

Dear Mr. Barger:

A MAPLLC representative attended the 4th Regional Reliability Symposium in LaCrosse, Wisconsin on May 18th and 19th. At the symposium, we became aware of a regional load flow study that the Public Service Commission of Wisconsin has been asked to perform by the Governor by September 1998. MAPLLC would like to be an active participant in this study. During the symposium, we learned that the current load flow models have a large amount of fictitious generation modeled to serve interruptible load. Since the interruptible load has an hour to be curtailed, firm transmission is needed to serve the interruptible load in Wisconsin. We also learned that no one models the existing 55 MW Stoneman plant, since it is currently doing non-firm transactions.

The rules as I understand them are that only firm transactions are allowed in these load flow base cases and the amount of generation needed to meet the gross load over the existing generating capability is made up by these fictitious generators. The current process needs to be changed to reflect the new world. The majority of new generating units will be made up of merchant plants which will serve the marketplace. These new generating units need to be modeled first, before these fictitious generators are added to the model. Currently, MAPLLC has a CPCN before the Public Service of Wisconsin to add a 300 MW to 540 MW combined cycle plant at the Stoneman site. We would like to see the future Stoneman plant included in this planning study.

The new 300 MW to 540 MW Stoneman plant could be modeled along with the proposed Columbia-Salem 345 kV line that will go past the Stoneman site.

Please contact me at (920) 490-6011 as soon as possible to discuss including MAPLLC in this study.

Sincerely,

Richard Suslick

cc: Mr. Jim Loock - Public Service Commission of Wisconsin  
Mr. John Feit - Public Service Commission of Wisconsin  
Mr. Larry Borgard - Wisconsin Public Service Corporation  
Mr. Chris Plante - Wisconsin Public Service Corporation  
Mr. David Grover - Northern States Power Company

JULY 1~. 1998

Public Service Commission of Wisconsin

Joseph P. Tettner, Chairman

Mr. Richard Suslick  
PLLC  
677 Baeten Road  
Green Bay, WI 54304

Re: Regional Transmission Study

Dear Mr. Suslick:

Thank you for your letter of June 12, 199~. about IAPLLC participation in the regional transmission study that is currently in progress. I also appreciated the chance to discuss this matter recently with you and with Mr. Steve Daavettila.

The nature of this study is to identify sets of new lines that may be necessary to increase the capability of the transmission system to import power into eastern Wisconsin. Some options include new lines that would pass near the existing Stoneman Power Plant, which is also the location of a possible new IAPLLC power plant. These lines could provide adequate transmission outlets for such a new plant, so I would not expect IAPLLC participation in this study to add any new major lines to the list of those already being considered.

After this study, additional analysis would be necessary to determine specific lines that would need to be constructed to increase transfer capability. The impact of many factors, including potential new power plants, would be considered in that additional analysis. MAPLLC participation in that additional analysis would provide input about potential new power plants.

Your concern about factoring in the interests of power plant developers into transmission planning is noted and we will endeavor to include those interests in the future. However, for the regional transmission study at hand, MAPLLC participation would complicate the process and affect the study progress. Mr. Daavettila indicated that copies of the final minutes of the weekly conference calls of the study participants would suffice in lieu of IAPLLC participation in the study. On July 6, 1998, per his request I sent you (via email) the final minutes as of that date, and likewise I will forward you future final minutes as they become available. I hope this addresses your concerns.

Telephone: (608) 266-3151  
<http://www.psc.state.wi.us>

Fax: (608) 266-3957 Home Page:

Mr. Richard Suslick  
~IAPLLC  
Pa~e ~

If you have other questions or comments, please contact me again.

Sincerely,

Dave Barger  
Senior Engineer  
Electric Division  
DJB:C:\DJBarOer Files\MAPP+~lAIN Study\Re~ional Tr~nsmission.Suslick.DJB.doc

cc: Dave Grover, WIRE Study CoÄChair/MAPP  
Chris Plante, WIRE Study CoÄChair/MAIN  
Jim Loock, PSCW  
Steve Daavettila, ~VIAPLLC

Mid-American Power, LLC

, ~ust '. 199~

~k. DaÄid Barger  
Public Se~vice Comrnission of wr  
610 ~ ~,v~nitney W~y  
PO Bo.~ 7~ '  
~Iadison, Wisconsin 53~07Ä7

De~r ~Lr. Barger:

~I~PLLC received your July 1~, 1998 letter, responding to our request to be an active participant in the cun~ent PSC't~' regional transmisslon study. We are ~Äery disappointed that Staff has denied ~fLAPLLC the opportunity of ac~ively parlicipating in the study. Other nonÄtransmission oÄ~Äning entities have been alloÄved to participate. We disac~ree that our participation would complicate the process and affect (in a negative way) the study ?rogesa. In the July 15th letter ~Ir. Barger ù~rites, ' ~Lr. Daavettila indicated that copies of the final minutes of ;he ~vee~:~Iy conferer.ce c:7lls of the study par icipants would suffice in lieu of ~L~PLLC partic.pation in the , ud~f." This sLatement is not quite accurate. ~L~PLLC still wishes to be an active participan~ in the study and :~ a ~!rimum ~ould like access to the meÄting minutes. ~vL~PLLC has e~pertise in transmission planning, loss of load ~robaoilitv analysis, and kr.oÄvledge or the Arpin phase angle phenomenon. Your apparent concern that ~L~PLLC ùould attempt to bias the study in .favor of ~L~PLLC's Stonem:~n Power Plant is ur.ounded. We believe it ùould be appropriate to have otheÄ inte.ested gerleration oÄvners involved in the studv.

~L~PLLC questions the criteria for membership to this study group. This is a transmission study that the Public Service Commission of Wisconsin is conducting. The list of participants includes more than state .egulators and transmission o~vnin(J utilities. The discussion in the ~Iay 12th meeting minutes is troubling. On page four there is a discussion in which Scott Barnhart from ~vÄPPI re~uests that their share of the Clay Bos~vell ?i:~nt. loc~ted in northern L~/linr.esota be modelled ~s delivering the output of the plant to EasteÄn Wisconsin, 62 ~r~ÄvÄ to ~Wisconsin Elect ic and 12 ~rw to ~v isconsin PoÄver ~: Light. Does WPPI have firm transmission in ~002 to Wisconsin Electric and Wisconsin po~ve, & Light? Does ~PPI oÄvn transmission? Doesn't including these t ansactions create a bias in the ~nalysis that favors facili~ies that support a Clay BosÄvell to MJMS rrans2c~ion? Ho~v is this difÄferent from including the e:cisting L~L~PLLC plant at Stoneman in the analysis? To our l~oÄ~. ledge, the existing ~ V plant .~t Stoneman is never modelled, yet there is a shortage of c~capacity in .he siuay area.

rr.e June 2~, 199S meeting minutes contains the follo~ing st.~tement on ~vL~PLLC's request to actively ?a~ .icipate, "~Lr. Barger (PSC~IV) suggested that the request is potentially premature and that the correct forum .Äor rr.erchar.t function participation and comment is after the public rele:~se of the study." l~L~PLLC disagrees .vi~", this state nent and offers its comments on the ù~Äor~c of the study group to date below. These comments are .~sed or. ~L~PLLC's understandin~ of the r.Ä.ee~ing minutes found on the ~vLARn Internet site.

WPS Pow~r O~vdopm~nt, Inc.  
677 3a~t~n Ro~d G~ÄÄn BÄy, Wl~co~ln 5430  
Tuluphon~r 920Ä190Ä60~0 FJS: 920--190Ä5999 E~  
PC1P5WER@~pdi.wp~r.con~

Mr. David Barger  
August 4, 1993  
page 2

region 1 transmission study is examining the power system in the year 2002. It is quite clear from the minutes that there is zero excess generation anywhere. Purchases from the west are created by reducing the load in the Dakotas and Nebraska up to 10% and then adding new generation and moving it to Wisconsin. Purchases from the south consist of 90% imports from ECAR and 10% from southern Illinois. It is unknown from the minutes what generating units were used for these assumptions. Mr. Saletta states that "there was no excess generation available in northern Illinois" (May 6th minutes). M-PLLC's understanding is that ECAR is in inverse shape than IN. Given that excess generation does not exist, M-PLLC is concerned about the selection of sources. When examining transfer capability from the south, southern sources are used. When examining transfer capability from the west, western sources are used. However, when examining transfer capability from the southwest, it appears that the western sources are used. This results in the Dubuque-Columbia 34 kV option "only providing 100-300 MW of incremental benefit" (June 9th minutes). This is not a surprising result. What would the results be if sources located to the southwest of Wisconsin were modeled, such as new generation in Iowa or imports from the Southwest Power Pool (SPP)?

After review of the alternatives under study, M-PLLC would like to see a new alternative examined. In project C, two 345 kV lines are proposed, one from Prairie Island to Genoa-LaCrosse to West Madison and one from Dubuque to Genoa-LaCrosse. M-PLLC would like to see the Dubuque to Genoa-LaCrosse line replaced with a Dubuque to West Madison 34 kV line. M-PLLC would like to see this line examined using sources located southwest of Wisconsin. This new variation would provide two new paths into Wisconsin versus one and would help reduce the loop flow on the Central-Northern Edison system.

M-PLLC hopes the above comments are helpful and we look forward to working with you in the near future.

Sincerely,

Richard Suslick  
Director

RJS, 'SJD

cc: Dave Grover  
Chris Plante  
Jim Looch  
Susan Stratton  
Steven Daavettila  
Joim Feit  
Larry Borgard

Public Service Commission of Wisconsin  
Joseph P. Lettner, Chairman 610 North Whitney Way  
John H. Farrow, Commissioner P.O. Box 784 ~, Ave 1.  
Bie. Commissioner Madison, WI 53707

September 3, 1998

Mr. Richard Suslick  
Mid-American Power LLC  
677 Baeten Road  
Green Bay, WI 54304

Dear Mr. Suslick:

This letter is in response to your August 1, 1998, correspondence to Mr. Barber of the Public Service Commission (PSC or commission) staff expressing concern over how the PSC was conducting its regional transmission study. We understand that early discussions between Mr. Davettila of Mid-American Power LLC (M-APL) and Mr. Barber resulted in M-APL access to minutes of the working group conference calls and that would be sufficient for your desire to follow progress of the study. We interpreted your letter as providing comments to our study effort and not needing a specific response on our part. Subsequently, Mr. Davettila requested a written response.

The regional transmission study undertaken by the PSC was a significant undertaking over a very short timeframe. The PSC utilized the services of an independent consultant to assist in the performance of its responsibilities. State regulatory agencies from Wisconsin, Minnesota, Iowa, and Illinois were active participants. Ten major utilities and two public power agencies within the upper Midwest region, including one Canadian utility, provided electric transmission system models and transmission planning expertise. Two electric reliability councils also provided valuable input. None of the study participants in the study effort were market entities such as M-APL. In all, more than 15 transmission planning engineers with well over 100 man-years of transmission modeling and planning expertise were able to complete the analysis.

The primary focus of the study was to address reliability issues relevant to the regional transmission system. No attempt was made to address commercial or non-firm economic power transaction issues. We feel the end result was a well balanced report addressing the requirements of 1997 Wisconsin Act 10. I think that many of your August 1, 1998 comments have been addressed in the report. We feel confident that when you read the report you will also find it to be a balanced and well done assessment of the regional reliability of the transmission system. A copy of the PSC Report to the Wisconsin Legislature on the Regional Electric Transmission System is available via the internet on the PSC web page. The address to the site is <http://www.psc.state.wi.us/energy/electrel/tl.html>

Telephone: (608) 785-1179  
Fax: (608) 785-1179  
Home Page: <http://www.psc.state.wi.us>  
pscrcs@psc.state.wi.us

Fax: (608) 785-3977  
E-mail:

Mr. Richard Suslick  
Mid-American Power LLC  
Page 1

Thank you for your interest in this vitally important issue.

Sincerely,

James D. Loock  
Chief Engineer  
Electric Division

JDL:mem:L:\letter\vlAPLLC Response 9/1/98

cc: Dave Baruer. PSC  
Susan Straton. PSC  
Kevin Cronin. PSC  
John Feit. PSC  
Dave Grover. NSP  
Chris Plante. WPS  
Larry B aruard. WPS  
Dale Landoren. WEPCO  
S[ee] Daavettla. ~IAPLLC

Mid American Power, LLC

September 21, 1998

Mr. James D. Loock  
Public Service Commission WI  
610 N Whitney Way  
PO Box 7854  
Madison, WI 53703-7854

Dear Mr. Loock:

Please accept M-PLLC's congratulations for completing the PSCW "Report to the Wisconsin Legislature on the Regional Electric Transmission System" dated September 1, 1998 ("Report"), in a very short period of time since mandated by Wisconsin Act 204. The report identifies the key issues that must be weighed before selecting transmission reinforcements and the importance of the need and location of new power plants.

The June 2, 1998 W-E Group minutes state that according to Mr. Barger (PSCW), the correct forum for M-PLLC's participation and comment is after the public release of the study (Report). In the July 15, 1998 letter from the PSCW to M-PLLC, Mr. Barger writes that, "After this study, additional analysis would be necessary to determine specific lines that would need to be constructed to increase transfer capability. The impact of many factors, including potential new power plants, would be considered in that additional analysis. M-PLLC participation in that additional analysis would provide input about potential new power plants."

Since this study (the Report) is now complete, M-PLLC now offers its comments, and restates its wishes to become an active participant in the next phase of this process.

M-PLLC Comments on the Report

Listed in the attached Appendix are M-PLLC's comments on the Report.

M-PLLC's comments mainly focus on the LOLE analysis, the selection and identification of sources and sinks used in the analysis, and the impact those sources and sinks have on the loss analysis.

WPS Pow~ O~v~lop~n~, Inc.  
377 a~Ä~Än Ro~d GrÄÄn a~y, WiÄcrJn~in s~3a4

TÄlÄphonÄ: 920 ù90ÄSO~0 fa~: 920Ä490ÄS999 E~ÄÄl: PO1P5WER@pd1.wp~.com

Mr. Jarnes D. Loock  
Page 2

In general, MAPLLC is pleased with the report. We offer our comments & questions as a stakeholder in the Wisconsin process, and in a spirit of facilitation of the next phase of these studies. MAPLLC believes that our comments and questions will need to be addressed if new transmission facilities are to be built.

As noted in Mr. Barger's July 15, 1998 letter, MAPLLC looks forward to actively participating in the next phase of this process. MAPLLC strongly recommends that the PSCW exercise this critical initiative by starting the next phase as soon as possible with a meeting of all interested parties. Please inform us of any activity and meetings.

Sincerely,

Oe~

Richard Suslick  
Director

/s, 'sJ'd

cc : ~Lr. David Barger, PSCW  
~Ls. Sus2n Stratton, PSCW  
~Ir. Kevin Cronin, PSCW  
Mr. John Feit, PSCW  
~Ir. Dave Grover, NSP  
~Lr. Chris Plante, WPS C  
r. Larr,v Borgard, WPSC  
~Lr. Dale Landgren, ~PCO  
~Lr. Steve Daavettila. MAPLLC

n~ ou~pd::r;s'.osc.vr. Fl.921

AJ~endix

LOLE Analysis & Comments & Questions The first sentence in the last paragraph on page 11 reads, "The LOLE analysis detailed in Appendix F found that approximately 1,100 MW of transfer capability into eastern Wisconsin will be required by 2002 to maintain reliability." LPLLC was unable to find in Appendix F any LOLE analysis of the year 2002. After examining Appendix F, we have a series of questions about the LOLE analysis.

Q Why was only 1998 examined and not 2002?

A Why were only the weeks 16 through 39 of 1993 examined and not the entire year? LPLLC understands that the LOLE criteria of 0.1 day per year is based on the accumulated LOLE over the 260 weekdays of a year. By only performing the analysis for part of the year, the transfer capability need is understated.

Q Why wasn't outage data for 1997 in the LOLE analysis? The 1997 data would have included the lengthy outages of the Kewaunee and Point Beach nuclear generating units which would have shown a need for a higher transfer capability to maintain the reliability criteria of 0.1 day per year. LPLLC assumes the outage data is available since the owners of these plants are members of this study.

Q Why was only load forecast uncertainty due to weather only used? With 2002 being four years away, why wasn't load forecast uncertainty due to all factors used?

Q What were the results of the LOLE analysis? Based on the LOLE analysis, what reserve margin is required to maintain the reliability criteria of 0.1 day per year?

It appears that the assumptions made in the LOLE analysis all favor the calculation of a lower reserve margin to maintain reliability.

The first sentence in the second paragraph on page 12 reads, "The LOLE analysis assumed that nearly 1,500 MW of new generation capacity is enough to maintain an 18 percent reserve margin and will be in operation within eastern Wisconsin by 2002." Again, based on the reference Appendix F, no LOLE analysis was performed for 2002, so what is the basis for this statement? In Table F. 1, column G, the title is "New Generation Needed to Provide 32% Reserves". Where did the 32% come from? Is this 32% Reserve Margin the result of the LOLE analysis that was performed for half of 1998 with the above listed assumptions? What would the reserve margin be if you examined a whole year, used outage data that included 1991, and used load forecast uncertainty due to all factors?

~L~PLLC h~s concerns that the 1500M~J of neÄv generation capacity identified in Appendix F

Û~ill not be build by 2002. Appendi~ F states that there is "considerable interest in building merchant pl.~nts." ~While this statement is true, it is also true that independent power producers (rPP) have had a very difficult time obtaining sites. Recently Coastal pulled out of Wisconsin after failing to obtain a site in the Appleton area and L.S.Power pulled out after failing to obtain a site in the Rockdale area. Obtaining greenfield sites by rPPs with no poÄver to condÄrnn is eYtremelv difficult.

In the last paragraph on page 12, the LOLE results of 1 100 l!~L~V of needed tr~nsfer cqpability and sorr.e undefined uncertainty of the transrmission svstern and the nucle~r plants appe2rs as a rationale to justify a simultaneous transfer tar2et of 3000 ~IW. Why 3000 l~V? ~Ähy not 1500 ~r~ or 1000 l~/IW? While ~APLLC does not oppose building transmission to achieve this 3000 target~ ~ve question the process of hoÄv the target was arrived at. l~ PLLC ~ould ask a diffe.ent question, "How much transfer capabilit~ is needed to create a market so deregulation wi!l ~vork?"

On pace 1~, Figure 3.1 is eYcellent. How ~ ould this figure change for each of the l~ short listed pl~r.s. ~L~PLLC is interested in observing hoÄv the different plans reduce the amo~nt of power floÄ~ through northern Illinois for purchases from the ~vest.

Sources and Sinks Ä Comments & Questions In ' ppendi.Y B, the sources 2nd sinks used in this studv are described. It is our und. standing thar no utility has eYcess genertion in ~00~. rhis is why for this study, load was .educud in weste n ~L~PP to 90% of peak for five control areas. HoÄv many megawatts of pot~e, came fron. each of the five are~s? This is never provided. The re?ort goes on to state, "r?Le study did not consider load reduction in eastern ~L~PP (~linnesota, Iowa, and western Wisconsin) because of its proximity to WU~IS. TÄnis is incorrect because Otter Tail Power Company is located in ~rir,Äesota and is also listed as one of the five control areas that had their load reduc~d. Also, t vo ne~.v 3~0 ~IW generqtors were added, one at Gentlernan and one at Antelope Valley. The report states. 'Gentleman and .~ntelope Valley were selected as new generation sites for the following reqsons: As confirmed in subsequent sensitivity analyses, the remote location (wes;~ n L~L~PP) does not unduly favor or punish any options." ~ at is the basis for this statement arld where in this report is the sensitivity analyses? If new units were needed, why didn't you add them closer to ~t~/isconsin? ~,Why didn't you put at least one of these neÄv units in Iol.va? Some of the l~ short liste d plans include buildin, into Iowa (southÄ~est of ~tVisconsin), but none of the sources are in the south~.vest.

In ~ppendi~ B, the southe~n Illinois / EC.4R sources are never identified. In Apoendi.Y E there is a lis.ing of the source ~nd sink participation points. However, under the ECAR sourc~s, onIy

company names are found. Did East Kentucky Power Cooperative, Inc. provide the same amount of power as did American Electric Power? What generating units in ECAR did the power come from? Providing only a company name as a source is like asking what street do you live on and answering I live in Wisconsin. The same is true for the southern Illinois sources. Also the name of these southern Illinois sources has been expanded to now read "the southern and central Illinois sources" in Appendix E.

Losses & Comments & Questions On page 37, references to Figure 5.2 and Table 4.2 are made. MAPLLC was unable to find Figure 5.~. Also MAPLLC believe inclusion of losses in Table 4.2 is inappropriate. This is because the selection of sources and sinks play a large part in calculating losses. Selecting sources so far away from Wisconsin and not selecting any sources from the southwest may skew the results. Including losses in this type of screening study provides little value. MAPLLC strongly agrees with the Report statement, "More system conditions must be studied to better estimate line losses."

ATTACHMENT B

Mid-American Power, LLC Position Paper  
Wisconsin Interface Reliability Enhancement  
Regional Electric Transmission System Study  
Phase 11

Richard J. Suslicki, Director  
677 Batten Road  
Green Bay  
(920) 839-1111

Mid-American Power LLC (MAPLLC) strongly supports the Wisconsin Interface Reliability Enhancement Study (UIRES) effort to identify, license and build new electric power transmission facilities in the Wisconsin, Minnesota and Illinois region. MAPLLC also believes that as an owner of an existing generating plant in Wisconsin, it should be allowed to fully participate in this process. It is also MAPLLC's belief that participation in this study and process should be open to other potential future generation owners as well.

MAPLLC currently sells electric energy and capacity to customers in both MAPP and MAIN and delivers that energy to its customers over the electric transmission system. In the future some of it not too distant others will use the transmission system for similar energy and capacity sales. It is clear to us that the majority of future electric generating plant construction will be in the form of merchant plants. As identified in the Report to the Wisconsin Legislature on the Regional Electric Transmission System, dated September 11, 1998 (the Report) no electric generation exists in the region in 2002. Thus MAPLLC believes it is critical to include the builders of future generating plants in the WIRES process. MAPLLC and other builders of future merchant generation will add necessary perspective and additional credibility to the process. We sincerely invite serious consideration of our request by the UIRES group.

Among the technical issues related to the UIRES Study, MAPLLC offered comments on the Report in a letter to the PSCW dated September 11, 1998. In general, we were pleased with the Report. Of our other comments we wish to elaborate on two elements as follows:

It is not clear to MAPLLC that a method is being established to determine the level of transmission capacity needed to support a competitive electric market in Wisconsin and in the region. The Report identifies a simultaneous transfer capability into Eastern Wisconsin of 3000 MW, but does not provide a sound basis for that level. Neither does it appear to recognize a future context of competitive merchant uses of the system. The Report only states that 1100 MW of transfer capability into eastern Wisconsin will be required by 2002 to maintain reliability.

MAPLLC believes that the following question needs to be answered: How much transfer capability into eastern Wisconsin is needed to create a market so deregulation is possible? With a present load of approximately 10,000 MW in eastern Wisconsin, MAPLLC would like to see a transfer capability of 1000 MW into and out of eastern Wisconsin. Without a defensible number and method for determining it, it will be difficult to justify the construction of additional transmission in Wisconsin and the region.

In completing the WIRES Study, realistic discrete generating units need to be modeled as sources. This is an important issue in evaluating the impact that the various alternatives might have on transfer capability and on the loss analysis. MAPLLC and other builders of future merchant electric generation can contribute realistic data to the process related to such units.

It is ~I ~PLLCÄs plcasure to participa~e in this meeting ~oda! ~Äe lool~ for~  
ard to continuing positi~ e par~icipation in this cffort in the future

~0V 6 1398

Mid American Power, LLC

December 11, 1998

Mr. Dale Landgren, Wisconsin Electric PO Box 2046 Waukegan, Wisconsin  
53001-0446

RE: Phase II WIRES Study

Dear Mr. Landgren:

Based on the November 11, 1998 WIRES meeting minutes, which were not posted until November 14, 1998 MAPLLC is concerned that the WRAO has already selected the Weston-Whitewater 345 kV line as the preferred plan, with the Chisago-Weston 345kV line as a backup.

MAPLLC has come to this conclusion based on the description of the November 6th meeting at the PSCW found in the November 11th meeting minutes. The minutes state that "the stakeholder meeting held on November 6th did not discuss the following items for the WIRES study group." The minutes then go on to list four major themes that MAPLLC believes should be included in the WIRES effort. Two of these themes are justification of the 3000 MW and the commercial/economic implications of transmission vs. generation and market-based efforts.

It appears the WIRES group is just repeating the Phase I study, only this time examining the study plans using a full AC load flow. The sources and sinks are the same.

As most of us know, the MAPP system has been characterized as a large wheel, with the hub of the wheel being the Twin Cities. Any new generation, or freed up generation due to load reduction, in Northern Minnesota, the Dakotas and Nebraska will flow through the Twin Cities. Using this generation as sources is probably fine for five of the study plans which start at Weston or Columbia and go to the West. However, this selection of sources is inadequate for the remaining plan, Salem-Fitchburg 345 kV, which runs from the Madison area to the southwest. With the sources listed above, a relatively small amount of power will flow on the Salem-Fitchburg 345 kV line for West to East transactions.

While the WIRES group may argue that by reducing load or adding new generation in the wide geographic area identified above makes it fair for all the plans, MAPLLC has a different opinion. Due to the nature of the existing transmission system, the majority of flow is funneled through the Twin Cities. This is why selection of discrete new generating units, located geographically at the other end of the various proposed plans, is required to fairly evaluate the study plans. 3000 MW of new generation at the Stoneman site (Cassville, WI) should be among those new

WPS Power Development, Inc.  
677 East Road Green Bay, Wisconsin 54304

relephonÄ: 920~90Ä60~0 FaJc 920Ä490ÄS999 EÄMail

POlPt9Wi~R@pdi.wp~r.com

Mr. Dale Landgren  
December 8, 1998  
Pa~Je 2

sources. The modeling of discrete ne~v generators will also have a large impact on losses, which play an important role in the economics of the Si,Y plans.

The selection of sources has been a concern of ~APLLC from the start. This concern has been voiced in our comments on the Phase I study and at the November 6, 1998 meeting held at the PSC~V. ~L~PLLC reiterates it's concerns from the November 6th meeting that without more direct input from organizations like MAPLLC, the WRAO/WIRES is planning a transportation system without adequate input from its future users.

As of today, the most recent WIRES meeting minutes posted at M~N are from the ~ovember 11, 1998 meeting. This delay underscores the inadequacy of WRAO/WIRES using such notes as a means of allowing ~IAPLLC to participate in these important studies. We are being provided with information well after the decisions and actions have been taken, which effectively negates any meaningful participation on our part.

We look forward to your response to our concerns e~pressed above, and to your willingness to let ~L~PLLC participate directly in this process, even at this late date.

Sincerely

~,~

Richard J. Suslick Director r~ s/sjd

cc: Mr. James D. Loock / PSCW ~Ir. David Barger / PSCW ~Is. Susan Stratton / PSCW ~Ir. Kevin Cronin / PSCW ~Ir. John Feit / PSCW ~Lr. Dave Grover / ~SP ~k. Chris Plante / WPS ~k. Larry Borgard / WPS r .~even T~ vettil~ / MAPT T (~

Wisconsin Electric

P~)WER COMMNY

231 '~J ;~' chlgan. PO B(~x 204~. Milwaukee WI 53201Ä2046 (~1~4] 221Ä2345

December 18, 1998

~Ir. Richard J. Suslick  
MidÄAmerican Power, LLC  
677 Baeten Road  
Green Bay, WI 54304

RE: Response to Letter of December 8, 1998

Dear Mr. Suslick:

The Wisconsin Reliability Assessment Organization (WRAO) appreciates the interest of MidAmerican Power, LLC (MAPLLC) in the regional transmission study as e~pressed in your letter of December 8, 1998. The Wisconsin Interface Reliability Enhancement (WIRE) study group has devoted considerable resources to the studv's development, and it will require a continued concerted effort to reach our goal of recommending a primary transmission system expansion plan and t~vo altemates by the end of March, 1 999. Addition of new participants at this stage of the analysis could seriously threaten our ability to meet our schedule, which allows minimal time for subsequent regulatory filings required to implement our final plan. The Phase II action plan presently includes six analysis paths which are at various stages of completion. I can assure you, despite your impression from reading the WIREs conference call minutes, that none of the six study, alternatives has been selected as the preferred plan, nor has any been eliminated. The relative merits and drawbacks of each option. along with technical analysis results, will be carefully weighed and judged before any decision is made on whether an option warrants cominued analysis or is eliminated as the study proceeds. The reliability of electric supply in Wisconsin requires completion of such a robust analysis before a preferred plan can be chosen.

Your letter stated that the sources and sinks being e~amined in Phase II of the study are the same as those in Phase I. You also urged inclusion of 300 to 500 megawatts of generation at the Stoneman site. First of all, I would like to point out that DC sensitivity, including source/sink sensitivity, is one of the six analysis paths mentioned earlier and we believe that this will sufficiently address the issue you have identified. Furthermore, I would add that the WIREs analysis is oriented to address the regional reliability needs of the upper midwest and that no speculative generation is e~plicitly included in the analysis. The Stoneman plant presently produces approximately 53 megawatts of power; if significant e~pansion beyond that generation capacity is planned, I would suggest you submit a transmission service request to the appropriate transmission provider via the OASIS and request that a facility study be conducted~

Wisconsin Electric

POWER COMMNY

231 w ~ chlscn PO sox 204~ Milwcukee. wl 53201Ä2046

~414~ 221Ä2345

I share y our desire to receive the minutes of the conference calls in a more timely manner, and I will ask the WIRES group to investigate methods of speeding up the process. I understand, however. that initial development of the minutes is followed by circulation of a draft, incorporation of corrections and comments, approval of the revised draft, transmittal to MAIN, and finally posting to the website.

Again I would like to thank you for your interest in this process, and I ask that you continue to monitor the WIRES conference call minutes and attend our regional symposia and stakeholders meetings.

Sincerelv,

Dale A. Landgren  
Assistant Vice President  
Business Planning Department  
Wisconsin Electric Power Company

cc (by eÄmail): WRAO  
Chris Plante  
r~ave ('Trover

Mid-American Power, LLC

January 22, 1999

121e Landaren  
Wisconsin Electric Power Company  
P. O. Box 206  
Milwaukee WI 53201-2046

Dear Mr. Landaren:

MAPLIC appreciates the opportunity for continued dialog related to the WIRES study as alluded to by your letter of December 18, 1998. The following points made in your letter of the 18th in our view continue to be problematic:

1. Participants cannot be excluded from the study because it may delay the study.

2. Someone should submit a request for a facilitator study to the appropriate service provider outside of the context of the WIRES study in order to resolve the development to build at the Stoneman site.

3. Curcuk selection will be elected as a sensitivity.

4. WIRES's analysis is oriented to address the regional reliability needs of the upper Midwest and that no speculative generation is explicitly included in the analysis.

It is unfortunate that there appears to be such a rush to complete the study to the point that it excludes participants who have a direct impact on the generation market. MAPLIC has the purpose of the study was to reinstate Wisconsin's transmission link to the generation market, yet developers of projects like Stoneman, whose ultimate capacity may be 17% of Wisconsin's 3000 MW improvement capability goal, are excluded. It has been almost 30 years since Wisconsin has built a major interconnection to the West. It is unfortunate that there does not appear to be enough time to make sure the transmission alternative provides access to the generation market is likely to develop. In fact, we are getting the WIRES's meeting minutes, however, the minutes are abbreviated and do not provide the full context of the meeting and are, therefore, less than ideal in understanding the details of the WIRES study.

WP5 i'~w~r CÄv--loomÄrt. Inc.  
67, 3aÄt~n Ro~d G~n 3ay, wi~con~n 5Ä30~Ä

T~l~phcr~: 920Ä490Ä604a

Fal~: s2alsoÄssss EÄM~0 polpt~wE~62pdi.~p~r.com

~vlr. Dale Landgren  
January 22, 1999  
Page 2

~/ith reards to your comment that Stoneman re~uest a facility study, we have already had cne stud~l done so far and if necessary, will be willing to c3nsider a proposal from our trar,smis, on provider to peForm yet another study, this time takins into account some of the \IVlRE's s.udy options. I\,lAPLLC has already demonstrate~ its commitment to developing generation at Stoneman by taking action in the following:

1. CPCN Docket 9337ÄCEÄ100 (211~98), (~.v/dr2\~.vn 7/1~98 pending future re\_p~iication.)
2. Responses to '~ utilitycapacity RFP's in 19C8.
3. Trans,Äniss, on sen/ic3 s.udies in connecticn with \NI utility capacity RFP's in 1 CG8.

e~e!ieve this unde!scores our int\_r t to be a p2rLicipant in the emers,r,S seneration mar,~\_t. T c furÄLher dernonstrate our c~mmitment to being an e!ectric supplier in the i\Jiic~.vect, ~,~/e arc willins to consider sr,crins in the over211 study costs as it pertains to the SLcne~.an facilit~/ s;u~\~, and ~Noulc sucsest 'h2t other power develccers be offered the s2me oopor.unit~.

Intesr2tins the deve!opment of the e!ectric generation mar5cet with deve!opment of the tranccmission system will result in sa~/inss to all users of the transmissiGn system. For instancÄ, if a ne\,~ transmission line 'rom Wisconc,n to I~JlAPP costs 5100~ and interÄönnec~iGn of the Stoneman Pla,lt into the sr.~ c~,sts \$10 million, it ~ ould seem that there woulcl be a poten;ial for up to S, 0 million in savinss to all transmissicn users if the t~.vo prcjec~s wer~ integrated.

We aFpr3c ate ycur ccmments that "as a sensiti~lit~J" your study will evaluate different scurce/sinl< scenarios. ~ased on our experience with these tyFes of anai~ses, we feel, that due to the tight S~ y schedule, e\_ch variaticn in source!sink scenar,cs will proba~ly not be fully e\Jaluated in the si;< anal~Jsis paths. For instance, the dynamic's stucv onl\J beins dcne using the "b2se case" source!sink assumptions. If that is the case ~.~Je fe\_l ycu may \,vant to make sure 'JOU select as \Jcur ~base case' a set cf source!sir,ks ~hich mcst likely reflec. r,c~,~/ the sener2tion mar',~et will de~leiop.

As \Jcu sta.Ä, the \/~JlR''s analysis is oriented to 2c'dr\_ss the regional reliability needs of the [. 'pper I~Jlid\~est and that you are excluc'ins l'specul2tive" seneration. It is our uncerstancins ~Jour sources are a combin2tion cf loacl reductions in Western l\IAPP (NPPD, OPPD, LES, WAPA, and OTP) and fictitiGus plants. The scenario appears to favor .ransmission solutions that result in construction of transmission lines from central

Wisconsin to the northern half of Minnesota. Since 150 MW of coal capacity has been added to MAPP since 1987, which is only 5% of MAPP's 1997 summer peak load, it is hard to visualize MAPP as an emerging source of low cost generating capacity in the foreseeable future, particularly in the northern tier. This fact is confirmed by virtue of the fact that MAPP's load had to be reduced and fictitious plants had to be added to provide sources. At best, the northern solution sets Wisconsin approximately half the way to the Canadian hydro market that is currently fully subscribed.

Besides extensive construction of transmission in Canada, new hydro resources have to be developed that can compete, after accounting for transmission costs and losses, in a U.S. market in which capacity value will be characterized as the price of capacity, and energy value will be typically characterized as a blend of coal resources. In addition, higher reserve margins will be required in a region with any significant dependency on energy limited resources such as hydro. In a 10-year natural gas facilities can continue to operate at full load whereas hydro facilities would have to have their output derated. These factors could suggest that the scenario of a developed hydro resource in Canada is also speculative.

Illinois LLC respectfully submits that the potential for a developing regional market is south of the Illinois basin on the following factors:

1. Illinois electric market is being deregulated.
2. C is in the process of selling its fossil generating assets which will provide sites for a developer(s) to develop additional generating capacity.
3. AES, a major power plant developer, plans to acquire CILCORP. This acquisition will not only provide sites for power plant development, but will provide AES with access to the Chicago and St. Louis market.
4. Chicago is an emerging electric hub. This, coupled with the continued increase in natural gas pipeline capacity to the Chicago area, suggests strong potential for electric generation development.
5. The current electric capacity shortage in Illinois coupled with the potential for numerous players to be able to independently develop new generating capacity, suggests that the market may be long with generating capacity during the next ten years.

Mr. Dale Landgren  
January 22, 1999  
Page 4

These factors suggest that the generation market is more likely to develop south and southwest of Wisconsin rather than in the northern tier of MAPP.

In summary, I\llAPLLC continues to believe that developers of merchant power projects could serve as a good resource to WIRES. MAPLLC continues to volunteer its services to serve in such a role. It is our belief as explained above that the generation market will most likely develop south and southwest of Wisconsin and the study "sources" for the "base case" should reflect that market development. The participation of the power developer in this study would bring added value by assuring integration of the developing generation market with the developing transmission system which will provide cost savings for all transmission users.

Thank you for your continued acceptance of our comments related to the WIRES study.

Sincerely,

Richard J. Susiick  
Director

RJS/TJS/jeo

cc

Mr. James D. Loock / PSCW Mr. David Barger / PSCW Ms. Susan Strat'Lon / PSCW  
Mr. Kevin Cronin / PSCW Mr. John Feit / PSCW Mr. Dave Grover / NSP  
Mr. Chris Plante / WPS Mr. Larr Borgard / WPS Mr. Tom Smies / WPS

ns:\S\_u\FCI\ris\arcsren\Is\ccc

./

February 1~, 1999

MidÄAmerican Power, LLC

~vlr. James D. Loock  
Public Ser~Äice Cornrnission WI  
610 N Whitnev Way  
P.O. Bo:c 7~54  
~Iadison, ~ 53707Ä7854  
Dear ~vlr. Loock:

As we discussed on Wednesday, February 3, 1999, ~L~PLLC supports having a special docket to investigate the need for increased transmission import capability into Wisconsin and the transmission alternative ~vhich ~would satisfy the need.

After reviewing Appendi~ C (utilities transmission plan) of the Findings of Fact, Conclusions of Law, and Phase II Order for 05ÄEPÄ~ (Advance Plan ~), it does not appear to include the transmission projects that are currently under study by the WIRES group. Also, 196.485 of the statutes, created in Act 204, states that the independent system operation (ISO) determines need for transmission facilities (paragraph 3). Since we currently do not have an ISO in place, and since the transmission facilities being evaluated by the WIRES group are not in the advance plan order, it appears a special docket would be helpful to review need and all transmission projects considered by WIRES.

I am available to discuss this issue ~vith you further and please do not hesitate to call me at (9~0) 490Ä6011 if you have any questions. Best regards,

~ ~ G ( ~ ~ ~ S/ G ~ f

Richard J. Suslick  
Direc~or

cc: ~Lr. Dale Landgren / WE  
~vk. David Barger / PSCW  
Ms. Patricia McCormack 1 PSCW  
~Ir. Kevin Cronin / PSCW  
~k. John Feit / PSCW  
~vIr. Dave Grover / NSP  
\~Ir. Chris Plante / WPS  
~k. Larry Borgard / WPS  
~Ir. Tom Smies / WPS

bcc .Mr. Kiah Hams / BMD  
.~k. Michael ;McComas / B~ID  
Ms. Freddi Greenberg / MWIPS

WPS PowÄr DÄvdopmÄnt. Inc.  
677 '3aÄtÄn Ro~d GrqÄn E~y, Wi~con~in 54304

Tel~phon~l: 92049C4040 f ~ 920490ÄS999 EÄ)~ail:  
P01POWER~pdi.wp~.ccm

n:~roup~Drns\lccclc ~99

Mid-American Power LLC

February 1, 1999

Mr. Dale Landgren  
Wisconsin Electric Power Company  
P.O. Box 1046  
Waukegan, IL 60087

Dear Mr. Landgren:

The February 1, 1999 meeting minutes from the IRES group discussed two issues which WPLLC would like to comment on.

The first issue concerns the IRES group discussion on prior outage performance. While WPLLC agrees that a comparison of all options for one given prior outage can produce an unfair assessment, an analysis similar to a prior outage analysis is needed to determine the commercial transfer capability of each option.

It is WPLLC's understanding that the transfer capabilities for each option are calculated for a single contingency at time of the peak load hour. This reliability criterion has served the industry well to this point as a measure of reliability. However, WPLLC respectfully submits that fundamental changes in the market place require a different approach to analyzing these options. Rather than evaluating the options for the peak hour when there may be limited amounts of energy which can be imported into Wisconsin, we should be looking at various load levels, generation dispatch and prior outage conditions to assure that Wisconsin can purchase lower cost energy in the upper Midwest when it is available in the non-peak load hour periods. We are sure for instance, that Wisconsin's transmission import capability in non-peak time periods is not dependent on generation at ISP or Vheaton or DPC. The Power plant series is just one example of the need to expand the analysis to insure that the best option or combination of options is identified which will provide Wisconsin with access to the power market during a variety of market conditions.

The second issue concerns the integration of local load serving options into the analysis. WPLLC is in agreement with Mr. Richard that the local load serving benefits of each option should be identified. WPLLC would also suggest that these same options will also provide benefits by providing generation outlet capability to power plants with plans to expand output capability. Both load serving and generation outlet benefits need to be quantified in order to assure the option which best serves the needs of Wisconsin is identified.

WPS Pov~ ~ O~v.Äloom~n~. Inc.  
677 aaHtHn Ro~d Gr~Än Bay, Wi~consin 54304

TÄlHphon~: 920~90~i0~0 Fa~: 920 ~90Ä5999 EÄMaÄl: POlPOWER@pdi.wp~r.conl

Dale, we appreciate this opportunity to provide these comments on a study which will have significant impact on the future of the electric industry in Wisconsin. Please do not hesitate to call if you have any questions or concerns regarding this letter. Again, thank you.

Sincerely,

Richard J. Suslick  
Director

RJS/jeo

~Mr. James D. Looch / PSCAV  
~Mr. David Barber / PSCW  
~Ms. Patricia McCorlennack / PSCW  
~Mr. Kevin Cronin / PSCW  
~Mr. John Feit / PSCW  
~Mr. Dave Grover / ~rSP  
~Mr. Chris Plante / WPS  
~Mr. Larry Borland / ~VPS  
~Mr. Tom Smies / WPS

~farch~, 1999

MidÄAmerican Power, LLC

Mr. Dale Landgren  
~,Visconsin Electric Power Company  
P.O. Box 20~6  
vaukee. WI 53201Ä2046

Dear ~vlr. Land.~,ren:

MAPLLC is pleased to offer you the results of our analysis to estimate the value of differential import capability for the WIRES study, to assist WR~0 as requested by you at our stakeholder meeting on February 3, 1999.

~L~PLLC estimates a 40 yr PVRR value of: \$0.6 Ä \$ 1 .5 Million~Mw of increased import capability. The followin~ assumptions are endemic to our estimate

1. 1 99~ daily Power Market firm on peak prices are a good inde.~c for the market.

. WU~f's market price tracks with CE hub prices (this assumes that in the future there are no constraints between W~I's and CE)

When CE prices are higher than l~L~PP, there is a constraint in west to east power transfers.

. The current market deltas (CE price ~ PP price) will continue to e~cist for import levels which will be achieved after ~VI reaches 3000 ~Iw import goal. Thus, any location based marginal pricing that could e:Yist in future Wisconsin markets is not accounted for by this estimate.

. The range in value reflects the inclusion of all days where CE prices e~ceeded MAPP vs e~cluding the two highest price delta's (the 199~ price spike was an anomalously). In 1 99~ there were 160 days ( out of 7 50) ùwhere CE's prices were higher than MAPP.

6. 40 yr PVRR assuming 5%lyr increase in price delta and a 10%,/o discount rate.

7. These values would be multiplied by the ~fw of import capability above 3000 ~fw to establish the value of additional import capability.

WPS Po\_Är 0~v~lop~mÄnt, Inc.  
677 8~at~n Ro; d Gr~Än a~y, Wi~con~in 54304

Tehphomn

920490Mi040 F;~c: 920Ä490Ä5999

EÄM~ P~IPCW~R~Ddi.woÄr.com

~Ir. Dale Landgren  
Wisconsin Electric Power Company  
February 4, 1 999  
Page '7

Please let us know if we can be of further assistance to the WIRES team as their study moves for vard completion.

Sincerely,

Rich~ard J. Suslick  
Director

~Ir. James D. Loock / PSCW  
Mr. David Barger / PSCW  
~Is. Patricia McCormack / PSCW  
~vIr. Kevin Cronin / PSCW  
~Ir. John Feit / PSCW  
~Ir. Dave Grover / NSP  
~Lr. Chris Plante / WPS  
~Ir. Larry Borgard / WPS  
~r. Tom Smies / WPS

n: ~rouo PDrns land~r~n 399

