

**MPC REPORT TO THE COMMISSION**

**Docket No. U-15590**

**July 31, 2009**

## **Background**

In July 2008, the Michigan Public Service Commission (MPSC) issued an Order<sup>1</sup> in Case No. U-15590 which established the Michigan Planning Consortium (MPC) to improve the planning process for electricity infrastructure projects and identify possible ways to reduce costs to ratepayers. The Order states in part, “the public is better served, and the regional planning process is stronger, when there is adequate coordination among different Michigan entities contributing to energy infrastructure planning.”<sup>1</sup> The Consortium was created to act as this coordinating agent. In addition, the Order cites FERC Order 890 as requiring “coordinated, open, and transparent transmission planning on both a local and regional level. The nine planning principles adopted by the FERC require coordination with transmission customers, neighboring transmission providers, affected state commissions, and other stakeholders to develop transmission plans.”<sup>1</sup> FERC Order 890 processes have undergone refinements and the MPC was established a complement to that Order.

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The Commission Order further directed that the initial goals of the MPC should include the following:

- Ensuring adequate sharing of information throughout the planning process on a local and detailed level.
- Evaluating energy infrastructure alternatives, including proposed transmission projects.
- Examining the cost effects of various alternatives on Michigan customers.
- Recommending the most effective ways for Michigan stakeholders to participate in regional planning processes, and related state and Federal Energy Regulatory Commission (FERC) proceedings, including MPSC Act 30 certification proceedings.

The Commission directed the MPSC staff to work with involved stakeholders, including, but not limited to, representatives from regional transmission organizations, transmission owners, generators, distribution companies, independent power producers, and alternative energy suppliers. Through the Order, the Commission directed the MPC to report by July 31, 2009 on its accomplishments, the efficacy of the Consortium in impacting electricity infrastructure improvements, and whether or how the Consortium should continue. This report is a product of the MPC members offered to the Commission to serve as the report directed by the Commission Order.

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<sup>1</sup> Commission Order in Case No. U-15590, <http://efile.mpsc.cis.state.mi.us/efile/docs/15590/0001.pdf>.

## Formation of the Michigan Planning Consortium

To start the process, Commission Staff issued a press release for an open kick-off meeting for the MPC on July 23, 2008. In addition to the press release, a webpage<sup>2</sup> was developed to serve as a communications platform to post materials for upcoming meetings. The kick-off meeting was attended by representatives from Michigan load serving entities, Michigan transmission companies, Midwest ISO (MISO), PJM Interconnection (PJM), Commission Staff, and the renewable energy industry, as well as other interested stakeholders.

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At the kick-off meeting, Commission Staff reviewed the contents of the Commission Order that established the MPC. Staff pointed out that the Order did not suggest that the Consortium develop integrated resource plans, nor did it suggest a continuation of the 21<sup>st</sup> Century Energy Plan or the Capacity Needs Forum. Commission Staff presented the following potential areas for the MPC to focus its work:

- Information sharing
- Planning assumptions
- Evaluation of infrastructure proposals, cost effects, and alternatives
- Coordination between state and regional processes
- Enhancements to the PA 30 certification process
- Other (such as the implementation of new legislation)

The above ideas were presented for discussion only, and the feedback and input from the stakeholders regarding the future areas of the MPC to focus was requested. Commission Staff distributed a proposal for the structure of the Consortium and its possible future activities, and requested written comments and feedback from MPC participants on that proposal. Twelve MPC participants submitted written comments<sup>3</sup> and they were discussed by the group at the August 26 meeting of the MPC. Parties expressed concerns including jurisdictional issues, the proposed process overlapping existing planning processes, and sharing of confidential information.

Deleted: Those comments received regarding the formation and proposed structure of the MPC are included in their entirety in Appendix A \*\*\* Post to website separately and link\*\*\*\*.

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Without reaching complete consensus, the group proceeded to have members sign up to participate in three workgroups. The first workgroup was to be focused on information sharing and local planning assumptions, tackling such issues as the identification of information gaps and needs of Michigan stakeholders, load forecasting, and the process for developing and evaluating project alternatives. The second workgroup was to be focused on infrastructure expansion for renewables, and based upon the feedback, was expanded to have a focus of infrastructure expansion for all generation which includes renewables. The third area of focus was identified as the 765 kV loop to look at the proposed extra-high voltage transmission line project proposals through Michigan and the surrounding region, including discussions on the cost and benefits of such projects.

<sup>2</sup> MPC webpage, [http://www.michigan.gov/mpsc/0,1607,7-159-16377\\_47107\\_51195---,00.html](http://www.michigan.gov/mpsc/0,1607,7-159-16377_47107_51195---,00.html).

<sup>3</sup> [Comments Received from MPC Participants August 2008, \\*\\*\\*insert link here\\*\\*\\*](#).

ITC Holdings Corp (ITC) and American Transmission Company (ATC) both presented an overview of their processes that are used for transmission planning to the Consortium. Both ITC and ATC described their planning methodology that complies with FERC order 890 transparent and open planning requirements, and answered questions from the group.

Following the first two MPC meetings where the structure and scope of the MPC was being developed, the MPC conducted most of their work throughout the year within the workgroups (Information Sharing and Local Planning Assumptions Workgroup, 765 kV Workgroup, Renewable and Other Generation Integration Workgroup) that were defined. Participation in the workgroups was open to anyone that wanted to participate. Web pages were developed on the MPSC website for each of the three separate workgroups and the MPC workgroups generally met on a monthly basis. The following sections describe the discussions and actions that took place within the workgroups.

### **Information Sharing and Local Planning Assumptions Workgroup**

#### **Objective**

The overarching goal of the **Information Sharing and Local Planning Assumptions Workgroup** was to increase information sharing related to electric system planning and to pro-actively discuss and attempt to reach agreement on planning processes, practices, and assumptions. The initial focus of the workgroup was on transmission planning processes at the local and regional levels. Specifically, the workgroup researched, discussed, and convened meetings to accomplish the following:

- Improve information sharing among Michigan entities associated with regional and local planning activities, including load forecasting and other planning-related inputs and assumptions.
- Review and discuss applicable planning standards, criteria and assumptions to ensure common understanding of and attempt to reach consensus on how they are applied in Michigan.
- Discuss tools and processes to evaluate resource alternatives, including demand response, generation, distribution, and transmission, in light of Michigan's electric industry structure.

#### **Major Activities and Discussions**

Discussions of Load Forecasting were probably among the most important activities to occur during the meetings of the Information Sharing Workgroup. Early meetings led to the development of a survey that was given to each Michigan Planning Consortium member. The survey was developed with the intent of gathering answers to those questions for various different load forecasts that are developed by Michigan Planning

Consortium participants. The group sought to gather information that would highlight any differences between various types of load forecasts, such as forecasts developed for corporate purposes, transmission planning purposes or for resource adequacy purposes, and also provide insight into the methodologies, assumptions, and basis used for various load forecasts. The goal of the survey was to gather information and open up the lines of communication between the infrastructure planning participants within Michigan. A copy of the matrix of questions that was distributed to participants is located on the MPC info sharing webpage.<sup>4</sup> Responses to the load forecasting survey were received from ITC, Wolverine, Detroit Edison, Consumers Energy, Indiana Michigan, Michigan South Central Power Agency, Alpena Power, ATC, PJM, and MPPA.

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An important piece of information that was collected was the name and contact information for an individual from each company regarding load forecasts. As forecasts are updated by planning participants in Michigan, other parties expressed an interest in having a direct contact who would be able to answer questions regarding the updated forecast, including the assumptions that were made to develop the updated forecast. The contact information was requested in order to facilitate answers to questions and further informal discussion surrounding load forecasts between the various planning participants in Michigan.

Survey question number 3 asked participants to describe the primary purpose of each forecast, and also describe any other uses there may be for that specific forecast. Several participants reported that one forecast is used for several purposes. For instance, Indiana Michigan reported that one forecast is used for their financial plan, integrated resource plan, and for transmission planning. Consumers Energy also reported that they use one forecast for financial and operational planning including rate cases, PSCR plan, budgets / forecasts, strategic plans, and integrated resource planning.

Deleted: The load forecast that Consumers Energy provides to ITC and MISO for transmission planning purposes and the load forecast that Consumers Energy provides to MISO for Module E are based upon the same internal forecast even though they may be reported from employees working in different areas, and even though the specific timing or forecasted years may be different between those two applications. Many of the participants responded that they develop a single forecast that serves multiple purposes. However, not all of the participants have reasons to develop all of the different types of forecasts based upon a varying scope of business. For that reason, several participants provided answers only for one or two of the different types of forecasts

The survey gathered some detailed information from participants regarding the frequency, methodology, and basis for the various forecasts. Many different sources and methodologies for developing forecasts were reported by the participants. Some areas where similarities existed between the majority of the responses include:

- Weather, economics, demographics, AC saturation, and historical loads are key drivers of forecasts developed by participants.
- Forecasts are updated at least annually (and some more frequently).
- The use of a 50/50 confidence interval, especially for longer term resource planning.
- Energy efficiency, demand side resources, and new loads are included only to the extent that they are known and firm.

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<sup>4</sup> Information Sharing and Local Planning Assumptions Webpage. [http://www.michigan.gov/mpsc/0,1607,7-159-16377\\_47107\\_52010-201612--,00.html](http://www.michigan.gov/mpsc/0,1607,7-159-16377_47107_52010-201612--,00.html).

Some key differences in the survey responses worthy of noting include:

- Sources and methodologies used to develop forecasts are varied within our region.
- Although transmission owners and operators Wolverine, ATC and MISO roll up the load forecasts that they are provided from LSEs within their territories, others such as ITC and PJM develop their own forecasts.
- Outside of rate cases or PSCR cases, there is not a consistent location or time to obtain updated load forecasts from other parties.
- Outside of participating in a rate case or PSCR case, there is not any specific process outlined to obtain the underlying details and assumptions that are utilized to develop updated forecasts.
- Although the majority of planning participants use a 50 / 50 forecast for transmission planning, ITC has been looking for support to use something higher than a 50 / 50 forecast for more conservative transmission planning.

The complete set of responses to the load forecasting survey may be found on the MPC Info Sharing Webpage<sup>5</sup>.

Following up on that effort, each Consortium member had the opportunity to present on their company's load forecasting methodologies and assumptions. The following is a list of presentations with the date of the presentation, and a link to the presentation as posted on the MPC website:

- ITC – September 18, 2008  
([http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/sep18\\_08\\_itc.pdf](http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/sep18_08_itc.pdf))
- Midwest ISO – October 28, 2008  
([http://www.michigan.gov/documents/mpsc/oct28\\_08\\_miso\\_planning\\_load\\_forecasts\\_source\\_and\\_applications\\_254255\\_7.pdf](http://www.michigan.gov/documents/mpsc/oct28_08_miso_planning_load_forecasts_source_and_applications_254255_7.pdf))
- Consumers Energy - November 18, 2008  
([http://www.michigan.gov/documents/mpsc/Load\\_Forecasting\\_-\\_Consumers\\_Energy\\_-\\_MPC\\_10-18-08\\_256969\\_7.pdf](http://www.michigan.gov/documents/mpsc/Load_Forecasting_-_Consumers_Energy_-_MPC_10-18-08_256969_7.pdf))
- DTE Energy – January 9, 2009  
([http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/infoshare/load-forecasting\\_dte.pdf](http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/infoshare/load-forecasting_dte.pdf))
- PJM – February 27, 2009  
([http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/infoshare/michigan\\_planning\\_consortium\\_load\\_forecast2.pdf](http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/infoshare/michigan_planning_consortium_load_forecast2.pdf))

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<sup>5</sup> MPC Info Sharing Webpage, [http://www.michigan.gov/mpsc/0,1607,7-159-16377\\_47107\\_52010-201612--00.html](http://www.michigan.gov/mpsc/0,1607,7-159-16377_47107_52010-201612--00.html).

- I&M – February 27, 2009  
([http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/infoshare/indiana\\_michigan\\_power\\_company\\_02\\_09.pdf](http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/infoshare/indiana_michigan_power_company_02_09.pdf))
- ITC – February 27, 2009  
([http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/infoshare/mpc\\_long\\_term.pdf](http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/infoshare/mpc_long_term.pdf))
- Wolverine Power Cooperative – March 27, 2009  
([http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/mpsc\\_forecast\\_presentation\\_final.pdf](http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/mpsc_forecast_presentation_final.pdf))

From these presentations, Michigan planning participants gained a greater understanding of the load forecasting process, as well as an understanding of each entities' updated forecasts. The workgroup also discussed the possibility of holding annual load forecasting meetings at the MPSC where each participant would make a presentation of their most up to date forecast and field questions on the forecast. While each presentation made by the workgroup members was informative, no consensus was reached on what forecasting methodology would be most appropriate to use on a going-forward basis.

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The Midwest ISO also presented on several other topics such as their Resource Adequacy Assessment Standards, the Midwest ISO Transmission Expansion Plan (MTEP) process, and historical operation of the Ludington Pumped Storage facility. The Midwest ISO discussed the MTEP schedule and process with the Information Sharing and Local Planning Assumptions Workgroup, and the specific information for proposed MTEP projects was discussed outside of the Consortium within the MTEP process.

The Information Sharing and Local Planning Assumptions Workgroup discussed the process for requesting information from the Midwest ISO and raising issues for investigation to the Midwest ISO. The Midwest ISO made a presentation<sup>6</sup> on how to request info from the Midwest ISO and how information requests are tracked through the Midwest ISO internally from Stakeholder Relations. The workgroup discovered that many stakeholders in Michigan were unaware before this presentation of the appropriate method to obtain information from the Midwest ISO.

MPSC Staff produced a document entitled *MPSC Expectations for MTEP 2009*<sup>7</sup> that laid out staff's positions on how Consortium activities would integrate with established MTEP processes in October, 2008. The MPSC Staff expectations were discussed as a group. ITC, Wolverine, and MISO submitted their own expectations and comments documents<sup>8</sup> in response to the MPSC Staff expectations document in January. The

<sup>6</sup> Midwest ISO presentation on tracking information requests,  
[http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/infoshare/work\\_process\\_flow\\_mpsc\\_2\\_09.pdf](http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/infoshare/work_process_flow_mpsc_2_09.pdf).

<sup>7</sup> MPSC Staff Expectations Document,  
[http://www.michigan.gov/documents/mpsc/MPSC\\_Expectations\\_for\\_MTEP\\_09\\_254362\\_7.pdf](http://www.michigan.gov/documents/mpsc/MPSC_Expectations_for_MTEP_09_254362_7.pdf).

<sup>8</sup> ITC Expectations Document,  
[http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/infoshare/mtep\\_expectations-itc.pdf](http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/infoshare/mtep_expectations-itc.pdf).

responses from the participants contend that some improvements have been made to the MTEP process for MTEP 09, based upon the requirements of FERC Order 890, and stakeholder feedback. Midwest ISO's responses spoke of the improvements of the MTEP process and also pledged to take some of the concerns raised in the Staff Expectations document into consideration for the current MTEP process.

Consumers Energy and Detroit Edison supplied documentation regarding "Identification of Information Needs" from the transmission owners (TO's) regarding MTEP projects so that they may be able to evaluate whether or not they may wish to propose an alternative. The TO's responded to this information to the extent they could to both Consumers and Detroit Edison.

### Accomplishments

The Information Sharing and Local Planning Assumptions Workgroup was able to recommend some improvements to the MISO MTEP process. MISO adopted some of the items from MTEP expectations document and now has proposed deadlines for project submissions, justification documents, and alternative submissions. Stakeholder relations personnel from MISO have started attending Sub-regional planning meetings (SPMs) and tracking issues raised at the SPMs.

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The workgroup served as an educational forum on different forecasting methods used by each participant. This workgroup also increased information sharing among the Michigan stakeholders. Additionally, this workgroup facilitated meetings outside the Planning Consortium among the participants to discuss issues.

### Issues of Note

Although the Information Sharing and Local Planning Assumptions Workgroup was able to open up the lines of communication between Michigan planning participants, there were still some areas where the group was unable to reach agreement.

- Operational definitions regarding Ludington Pumped Storage (although a majority of the discussion happened outside of the MPC). The operational definitions will play a role in future transmission planning activities and are being addressed by the owners of Ludington.
- The level of details shared or not shared regarding underlying assumptions for load forecasts. Consumers Energy and ITC representatives were able to meet outside of the Planning Consortium to discuss underlying assumptions for load forecasts.
- Specific details regarding overloaded transmission elements not being specific enough (such as "overloaded station equipment".) Some information on these

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Wolverine Expectations Document,

[http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/infoshare/mtep\\_expectations-wolverine.pdf](http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/infoshare/mtep_expectations-wolverine.pdf).

MISO Expectations Document,

[http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/infoshare/mtep\\_expectations-miso.pdf](http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/infoshare/mtep_expectations-miso.pdf).

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elements have been shared between Consumers Energy, Detroit Edison and ITC.

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## 765 kV Loop Workgroup

### Objective

The charter of the 765 kV Loop Workgroup reads as follows:

The **765 kV Loop Workgroup** will review existing studies and plans regarding high voltage transmission expansion in lower Michigan, and possibly the Midwest ISO region, including the ITC / AEP proposed 765 kV loop through lower Michigan. The workgroup would then identify the qualitative and quantitative advantages or implications of the projects, as well as roadblocks to project implementation. This workgroup will investigate quantifying potential reliability or operational benefits of proposed economic transmission projects to determine if they should be included as potential value drivers when analyzing larger scale economic transmission proposals. This workgroup will examine the potential impact of proposed economic transmission projects on the Michigan network and retail customers. Any recommendations developed by this group will be taken forward to the entire Michigan Planning Consortium for consideration.

### Major Activities and Discussions

Much of the initial meetings of the 765 kV Loop Workgroup focused on developing a greater understanding of the existing proposal by ITC and AEP to jointly construct a 765 kV transmission which traversed the lower peninsula of Michigan, from AEP's DC Cook Nuclear Power Station in Southwest Michigan, up through the Grand Rapids area, across towards Flint, and down the eastern side of Michigan, where it eventually crossed into Ohio to connect to existing AEP facilities at South Canton and near the Indiana/Ohio border.



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ITC presented<sup>9</sup> the MPC participants with an overview of the proposed 765 kV project through Michigan, which outlines potential benefits to the region along with some discussion regarding the application of MISO's economic benefit metric<sup>10</sup> that is part of the RECB II cost allocation methodology employed by MISO for regionally beneficial projects (RBPs). The workgroup examined draft study reports from the Midwest ISO which performed a benefit/cost analysis using the RECB II methodology— one which considers changes in adjusted production cost and locational marginal pricing to derive a benefit from the facility, and compares it to the anticipated cost of the transmission investment. It was noted by the participants that the RECB II analysis is not well suited for the analysis of large Regional projects, since the benefits are derived solely from the two aforementioned metrics, and requires a very high benefit-to-cost ratio threshold for further consideration of a project in the context of regional cost allocation. The MISO report contained analytical results based on an assumed cost-sharing between MISO and PJM, although no final cost-sharing mechanism has been put in place by either of the transmission owners, or either of the RTOs.

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The workgroup participants devoted some time to the discussion of alternative metrics for the analysis of large-scale EHV projects. The Midwest ISO presented some recent metrics they have been developing to try to improve the RECB process. This included a discussion of not only quantitative metrics, but also more qualitative metrics which are not easily monetized in a benefit calculation. At a subsequent meeting, ATC presented benefit metrics and calculations for its recent Paddock – Rockdale 345 kV line, to give the workgroup a different perspective on benefit calculations, and how different analysis methodologies can lead to a more robust quantification of transmission benefits. The group heard updates from other Regional efforts to revamp cost allocation methodologies and the attendant benefit metric calculations, including the recently formed CARP group and the RECB III initiative. Finally, the group debated additional metrics to propose to the commission and to the external groups. Although no consensus was reached on a specific set of recommendations, the group was generally in agreement that longer asset life can be considered when performing benefit calculations (something longer than the 10 years used by the current RECB process). The group was also generally in agreement that metrics which monetized greater reliability in the system; metrics which quantified transmission losses; and metrics which captured the societal benefits of transmission investment, such as carbon emission reduction and the proliferation of renewable resources, are good metrics to capture in a comprehensive assessment of transmission investment benefits.

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The Midwest ISO ran some additional analysis on a transmission system overlay which did not include the Michigan 765 kV Loop. This analysis was based on the recent work at the Joint Coordinated System Plan (JCSP) meetings, and attempted to show the distribution of benefits of different scenarios which did not include the Michigan project.

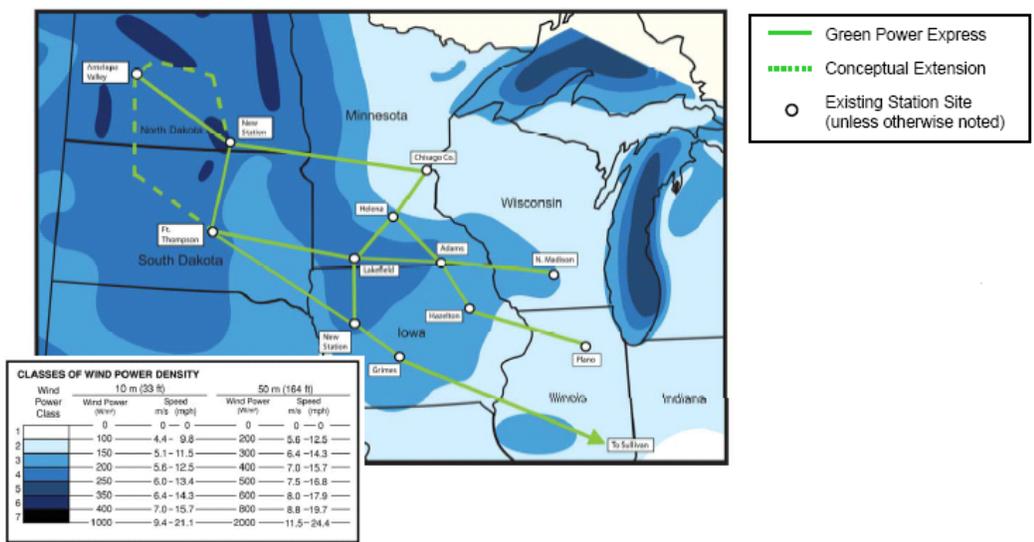
<sup>9</sup> ITC Presentation on 765 kV loop, [http://www.michigan.gov/documents/mpsc/9\\_18\\_08\\_itic\\_thumm\\_252981\\_7.pdf](http://www.michigan.gov/documents/mpsc/9_18_08_itic_thumm_252981_7.pdf).

<sup>10</sup> RECB II Economic Benefit Metric is discussed in section 4.4.4 of the Midwest ISO Transmission Planning BPM, <http://oasis.midwestiso.org/documents/miso/Transmission%20Planning%20BPM.pdf>.

The analysis did not correlate directly with the Targeted Study performed for the Michigan 765 kV loop, so direct comparisons were not immediately available. Benefits and costs were predicated on the total benefits and costs of the JCSP overlay. One interesting point from the MISO presentation was that EHV Overlay development around Michigan – without the benefit of a project into and/or through Michigan – causes an increase in production cost within the state.

During the February 765 kV Workgroup meeting, ITC presented an overview of their proposed Green Power Express<sup>11</sup> 765 kV project. ITC revealed that since early 2008 the company has been studying how to effectively and efficiently bring wind power to demand centers. As a result, the Green Power Express project was established to address the challenge of moving wind from resource rich areas to population centers. The proposed project consists of 3000 miles of extra high-voltage 765 kV transmission lines that will traverse six states and part of a seventh, two RTO regions (MISO & PJM), and some areas that are not currently within an RTO.

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The project is designed to connect over 23,000 MW of renewable energy from the wind-rich areas in the western MISO footprint, namely the Dakotas, Minnesota, and Iowa, and transmit much of it to load centers such as Chicago. The projected cost of this project was given to be in the range of \$10 to 12 billion. ITC's presentation discussed the benefits and advantages of the 765 kV Green Power Express project and their regulatory filing with FERC seeking rate treatment and various incentives. Additionally,

<sup>11</sup> [ITC's Green Power Express Presentation](http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/planning_consor_tium_green_pwr_express.pdf)  
[http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/planning\\_consor\\_tium\\_green\\_pwr\\_express.pdf](http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/planning_consor_tium_green_pwr_express.pdf)

the presentation indicated that the project aligned with the objectives of various regional planning initiatives including: the Regional Generation Outlet Study (RGOS), the Upper Midwest Transmission Development Initiative (UMTDI), and the Joint Coordinated System Planning Initiative (JCSP). The group recognized that this EHV project, too, much like the Michigan 765 kV Loop, would require a more robust complement of benefits to be accurately portrayed in the upcoming studies it would be analyzed with.

Accomplishments

The 765 kV Loop Workgroup participants feel that they have achieved a greater level of understanding of the specific projects proposed within both the state and the Region. The participants feel they have been engaged in discussions which brought a greater understanding of the mechanisms and methodologies that are used and can be used to evaluate and value the benefits of transmission investment. Although the participants ~~could~~ not reach consensus on all aspects of the benefit metrics, there was ~~an~~ understanding that some common ground can be reached in the proper forums. Much of the work contemplated by the Workgroup at the outset was preempted by various stakeholder initiatives throughout the Region, but each participant on such workgroups can bring with them the perspectives gained from the discussions had at the MPSC Planning Consortium 765 kV Loop Workgroup meetings.

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**Renewable and Other Generation Workgroup**

Objective

The Renewable and Other Generation Integration Workgroup was ~~initially~~ formed ~~within~~ the Michigan Planning ~~Consortium~~ to facilitate discussions around various questions under consideration by Michigan policy makers such as:

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- ~~What resources are available to meet possible RPS mandates?~~
- Can the existing Michigan electric grid accommodate significant new generation development?
- How much grid expansion would be necessary to accommodate Michigan wind developments assuming that most new resources will be wind driven?
- How should grid improvements be scheduled and made?

~~The original scope for the workgroup initially focused on transmission planning related to wind energy resource development and other generation integration issues with the intent of examining the costs and benefits of different generation scenarios within Michigan. The group also was tasked with developing a framework for the transmission expansion studies that would take place to support future generation within the state.~~

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As the MPC was forming, the Michigan Wind Energy Transmission Study (MI-WETS), a study focusing on possible wind development in the Upper and Lower peninsulas of Michigan was in its final stages. The workgroup intended to build on and advance this

study, by continuing to explore transmission needs for various levels of future wind energy development along with the addition of other possible future generation within the state.

On October 26, 2008, Governor Granholm signed the “Clean, Renewable, and Efficient Energy Act” (PA295) <sup>12</sup> into law. In many respects, the signing of this landmark legislation supplanted the goals initially established by the Renewable and Other Generation Integration Workgroup. PA295 established a 10% Renewable Portfolio Standard that electric providers in Michigan must achieve by 2015 and generally required that the renewable energy systems necessary to support the RPS be located within the state. Additionally, PA295 required the Michigan Public Service Commission to establish a Wind Energy Resource Zone Board<sup>13</sup>, whose role is to identify regions in the state with the highest wind potential and to quantify minimum and maximum expected wind generation potential within those regions. Upon issuance of the Board’s final report on these issues, transmission companies within the state are to identify existing and new transmission facilities necessary to deliver the minimum/maximum capacity for each region identified and are to submit their analyses to the Board for its review. Also, considering the Board’s findings, the MPSC is to issue an order identifying one or more primary wind energy resource zone(s).

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With the passage of PA295, the Renewable and Other Generation Integration Workgroup shifted its focus to reviewing ongoing transmission planning activities within MISO addressing RPS mandates within the MISO states. In addition, the workgroup focused on developing consensus on the scope of transmission studies to be performed by Michigan’s transmission companies to determine transmission upgrades necessary to support the minimum and maximum generation potential in the regions identified by the Wind Resource Zone Board.

### Major Activities and Discussions

Two regional planning initiatives are currently underway within MISO that are intended to address the needs of certain of the Midwest ISO states’ RPS mandates. They are, the Regional Generator Outlet Study (RGOS) phases I and II. The progress and end results of the RGOS phases I and II initiatives may be informative to Michigan’s transmission infrastructure studies that are under development in order to support the recently passed RPS.

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In anticipation of the need for transmission infrastructure to accommodate existing renewable mandates in Minnesota, Wisconsin, Illinois and Iowa, MISO initiated the RGOS phase I effort. This targeted study is intended to develop transmission projects to support the renewable mandates of those states, in advance of generators declaring their intent to be placed in the MISO Generator Interconnection Queue. The first phase of the RGOS initiative is intended to result in the development of new transmission

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<sup>12</sup> Michigan Public Act 295 of 2008. <http://www.legislature.mi.gov/documents/2007-2008/publicact/pdf/2008-PA-0295.pdf>.

<sup>13</sup> Wind Energy Resource Zone Web Page. [http://www.michigan.gov/mpsc/0,1607,7-159-16393\\_52375---,00.html](http://www.michigan.gov/mpsc/0,1607,7-159-16393_52375---,00.html).

infrastructure that will be coordinated with affected utilities and states and is expected to garner the regulatory support of the affected states.

During the initial development of the RGOS scope, in order to encourage the construction of interstate transmission lines necessary to serve cost-effective renewable generation, the governors of Minnesota, Iowa, Wisconsin and South and North Dakota formed the Upper Midwest Transmission Development Initiative (UMTDI). The UMTDI then provided direction (or input) to the RGOS study team with the intention of ultimately leading to the inclusion of agreed-upon transmission projects within MISO's transmission expansion plans (MTEP). The UMTDI initiative may provide guidance with respect to cost allocation in other areas.

While RGOS phase I is still underway, the Midwest ISO has recently commenced the second phase of the RGOS initiative (RGOS II) which is intended to build upon the transmission planning efforts of the first phase and identify transmission upgrades necessary to also meet RPS mandates in Michigan, Ohio, Missouri, Illinois, Indiana and Pennsylvania.

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As previously indicated, one of the initial goals of the Renewable and Other Generation Integration Workgroup was to continue and advance the work of the previously-established Michigan Wind Energy Transmission Study through its second phase (MI-WETS Phase II). This study will focus on developing transmission plans to serve the wind-rich regions identified by the Wind Resource Zone Board and it is anticipated that this Michigan-centric study will be incorporated in the second phase of the RGOS initiative and will ultimately be included and approved as a component of MISO's transmission expansion plans.

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Much of the discussion at this workgroup focused on the three study efforts mentioned above. Other discussions within the workgroup focused on policies and practices with regard to integrating renewables into the existing Michigan system. Regarding the initial funding of transmission network upgrades to accommodate yet-to-be-determined generation developers: upon issuance of an order by the Michigan Public Service Commission designating one or more primary wind energy resource zones, the transmission companies will design, fund and construct facilities agreed upon to service the expected wind generation capacity in that zone subject to all applicable tariff requirements.

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#### Accomplishments

Developing the scope for the transmission analysis to determine the existing and new transmission facilities necessary to deliver the minimum and maximum wind generation capacity for each region identified by the Wind Energy Resource Zone Board, or the second phase of the MI-WETS initiative, was one of the major accomplishments of the Renewable and Other Generator Integration Workgroup.

The scope document for this study:

Deleted: <#>Regarding the funding of distribution network upgrades necessary to accommodate renewable resources: such upgrades will be funded by generators causing the need for the upgrades pursuant to existing utility generator interconnection practices.¶  
<#>Regarding the interconnection of renewable resources to local distribution companies' facilities: use of the utilities' distribution system is a FERC-jurisdictional activity and charges to the generator for use of the distribution system will be pursuant to FERC-authorized tariffs or service agreements. ¶

- Establishes the base system topology from which any system upgrades will be determined.
- Established existing system loads, generation dispatch assumptions, and the status of interconnection ties.
- Describes how the capacity of expected wind generation will be modeled.
- Defines the timeline for the study.
- Describes the various scenarios that will be modeled.

## **MPC Report Development**

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In April of 2009, after having worked individually for 8 months, the workgroups started to meet jointly again to attempt to check the Consortium's progress toward meeting the objectives set forth in the Commission Order. Staff developed a memorandum<sup>14</sup> regarding developing proposals for inclusion in the MPC report to the Commission which outlined some key points from the Commission Order and asked for feedback from participants to sixteen specific questions to help frame the MPC report to the Commission. Written responses<sup>15</sup> that were submitted answering those sixteen questions, or were provided as comments to be considered when drafting the MPC report are also posted on the MPC website.

The group reviewed the responses from each of the participants, and there were some areas where the responses were divergent, however there were several areas where the participants were in agreement. Some of the key areas of agreement include the following:

- Generation of meaningful discussions between Michigan transmission companies, Michigan load serving entities, the Midwest ISO, and Michigan stakeholders regarding the Midwest ISO Transmission Expansion Planning ("MTEP") process.
- Generation of meaningful discussions on load forecasting, including discussions on different types of load forecasting methodologies used by electric and transmission companies.
- Improvement of stakeholders awareness regarding the appropriate channels for getting their concerns or questions answered by the Midwest ISO.
- Many felt that the activities of the MPC overlapped existing transmission planning processes that take place through the Midwest ISO MTEP process.
- Many felt that the MPC should not act as a forum to collect needed planning information, or be a source to collect transmission planning information, but instead help to facilitate discussions between planning entities within our region.

<sup>14</sup> MPSC Staff Memorandum to MPC participants, [http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/mpc\\_memo03\\_23\\_09.pdf](http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/mpc_memo03_23_09.pdf).

<sup>15</sup> MPC written responses for MPC report, [http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/comments\\_for\\_report4\\_15\\_09.pdf](http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/comments_for_report4_15_09.pdf).

- The MPC, collectively, does not have any recommendations to make to the Commission regarding any specific infrastructure solutions.
- Changes made to implement the open and transparent transmission planning processes outlined in FERC Order 890, have resulted in improvements in the transmission planning process, and MPC participants should continue to work with the Midwest ISO to further improve the transmission planning processes.
- Many recommended that the most effective method for Michigan entities to participate in the transmission planning processes is through the Michigan Technical Study Task Force, and the Midwest ISO MTEP process.
- Many of the MPC participants felt that the Consortium should not continue in its current form.

Within the written responses, there were some areas where the participants did not agree, and there were also some new proposals made that were not available to the group for comment when the initial responses were being developed. In order to obtain feedback on the new proposals, and clarify the position of the participants, additional feedback was requested from participants in four areas.

First, additional feedback was gathered on a proposal made by Consumers Energy, which was to continue the Consortium on an ad hoc basis with agenda items that would be developed surrounding “hot topics.” MPC participants felt that the MPC in its current form should be concluded but supported the concept of limited future ad hoc meetings as proposed in the hot topic proposal.

Another proposal made by Consumers Energy was to recommend a legislative change expanding P. A. 30 to include all facilities rated at 100 kV and above. Consumers Energy stated that if there is a disagreement on the need for a transmission project the Midwest ISO will defer to the transmission owner’s request to include the project in the MTEP with a discussion of the potential opposition, whereas certification proceedings would allow the impact of the proposed project on the customers in Michigan to be adjudicated by interested stakeholders. This proposal did not receive support from the other MPC participants.

Several other proposals and questions were raised within the comments received from the MPC participants, such as a proposal that the group should attempt to develop a consensus position on changes to future EHV transmission cost allocation. Several other similar proposals and questions were raised within the comments, and for some of those issues, the only consensus that the group could come to regarding all of these proposals is that they might be considered as hot topics for future Consortium meetings.

Another proposal was made by Constellation NewEnergy that was centered around the consideration of competition in the planning process. Additional feedback on this proposal was requested from MPC participants, and there were responses in support and also responses stating that it was outside of the scope of the MPC discussions that had taken place to date. The recommended course of action with this proposal is for the group to consider whether or not this topic fits within the scope of a future hot topic

item for the Consortium. Written responses<sup>16</sup> to this second round of questions, including the additional comments received, are posted on the MPC website.

## **MPC Accomplishments**

Several accomplishments were made through the work of the MPC workgroups and participants throughout the course of the last year. Many of the MPC participants reported that a major accomplishment made by the MPC was to open up the lines of communication between the MPSC Staff, independent transmission companies, load serving entities, generation companies, and other stakeholders within Michigan. The group learned about each participant's load forecasting methods and processes, and the participants were able to extend those discussions to forums outside of the Planning Consortium to have more informal discussions surrounding updated load forecasts.

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The MPC participants had several discussions centered on the Midwest ISO MTEP process. Several planning participants, including MPSC Staff, outlined informational needs or expectations from participants in the MISO MTEP process. From this process, planning entities gained an understanding of what the other participants expected from them through the planning process and in addition, MISO took some recommendations from the MPC participants regarding proposed deadlines for project submissions, justification documents, and alternative submissions back to their stakeholders for review. Some of the recommendations regarding the MTEP schedule, such as the creation of a timeline for project information exchange within the MTEP process, were able to be implemented by the Midwest ISO for MTEP 09.

Another key accomplishment made through the Information Sharing Working Group was to educate Michigan planning stakeholders with respect to the issues tracking process at the Midwest ISO. Midwest ISO Staff made a presentation to the Consortium describing the process for requesting information from the Midwest ISO or reporting an issue to the Midwest ISO. In addition to the presentation made at the MPC meeting, Midwest ISO stakeholder relations staff have started attending the Midwest ISO sub-regional planning meetings in order to track the issues raised during those meetings.

The major accomplishments made by the 765 kV Workgroup include educating Michigan planning stakeholders regarding the transmission projects going on throughout the region, and discussions surrounding the potential benefits to be gained within and beyond the local and surrounding regions from extra high voltage transmission projects. The participants have engaged in discussions which brought a greater understanding of the mechanisms and methodologies that are used and can be used to evaluate and value the benefits of transmission investment. Although the participants did not reach consensus on all aspects of the benefit metrics, there was a significant understanding that some common ground can be reached in the proper forums.

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<sup>16</sup> Written responses to MPC's second round of questions, [http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/grouped\\_round2\\_questions\\_mpc\\_report05\\_15\\_09.pdf](http://www.dleg.state.mi.us/mpsc/electric/workgroups/mpc/grouped_round2_questions_mpc_report05_15_09.pdf).

One of the major accomplishments of the Renewable and Other Generator Integration Workgroup was to define the scope of the transmission analysis required by PA295 to determine the existing and new transmission facilities necessary to deliver the minimum and maximum wind generation capacity for each region identified by the Wind Resource Zone Board. The scope document establishes the base system topology from which any system upgrades will be determined. In addition, the scope document establishes existing system loads, generation dispatch assumptions, the status of interconnection ties and how the capacity of expected wind generation will be modeled. The scope document defines the timeline for the studies and describes various scenarios that will be modeled.

Other discussions within the Renewable and Other Generation Workgroup focused on policies and practices with regard to integrating renewables with the energy delivery system. Discussions regarding the funding of upgrades for the transmission system, the distribution system, and interconnections helped to bring Michigan planning participants to the same page with respect to how the new legislation in Michigan fits together with the Midwest ISO process.

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### **Efficacy of the Consortium in Impacting Electricity Infrastructure Improvements**

In addition to reporting on the accomplishments made by the MPC, the Commission Order requested that the MPC report on the “efficacy of the consortium in impacting electricity infrastructure improvements.” The formation of the MPC was key to bringing the Michigan planning participants together to work together jointly, and although the participants continue to agree to disagree about certain projects or planning assumptions, the MPC has provided a venue for discussions between Michigan planning stakeholders.

Regional planning for the electrical grid is influenced by many factors including NERC standards, FERC policy, RTO / ISO processes, existing generation, future generation, and changing loads, etc. The mandatory reliability standards enforced by NERC include reliability analyses of the transmission system. At times, there may be several vastly different upgrades or changes made to the electrical grid that could produce the same end result. An example for a potentially overloaded transmission line could include a transmission line rebuild, strategically placed new generation, strategically placed demand response or energy efficiency programs, strategically placed energy storage, and probably other potential solutions as well. The independent transmission companies will develop a transmission solution for that potentially overloaded line, but may not investigate any of the other potential solutions, because generation, demand response, energy efficiency and energy storage are outside of their scope of business. The only way that generation, energy efficiency, demand response, and other potential solutions to a transmission overload will be evaluated is if they are proposed by a utility, generator, demand response aggregator or some other stakeholder within the region. In order to make such proposals, Michigan planning participants need to participate in

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the MTEP process at MISO where they can access transmission planning information in order to determine whether or not alternative solutions exist.

The formation of the MPC allowed the Michigan planning participants to come together and discuss their information needs, as well as educate planning participants regarding the best ways to become engaged in the transmission planning process. The MPC helped to increase involvement from stakeholders in the planning process, and attempted to improve the sharing of information, which all leads to better planning. Better planning leads to more effective infrastructure improvements for ratepayers. Despite these accomplishments, the RTO planning processes are the best forums outside of the transmission company itself, to obtain specific information regarding transmission planning projects.

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### **Recommended Future of the MPC**

Although the MPC made great strides toward educating and bringing planning participants together to discuss transmission planning from a Michigan stakeholder perspective, there were many participants who felt that several areas of the MPC had significant overlaps with existing regional transmission planning processes. There are, however, several items brought up by participants throughout the MPC process that may prove to be beneficial agenda items for the MPC participants to discuss at some point in the future. They include the following:

- Continuing discussions around the MI-WETS studies
- Cost allocation for EHV transmission projects
- Definitions for the benefits of transmission including how to include qualitative benefits in a cost / benefit analysis
- The role of the distribution system in accommodating RPS mandates
- The development of distribution feeder systems for renewables to support the transmission plans for renewables
- Future planning assumptions as experience is gained with intermittent generation
- Review of planning assumptions prior to the start of annual MTEP studies

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The MPC participants recommend that the MPC in its current format should be concluded. Going forward the MPC participants would like to continue the discussions of “hot topics” proposed by MPC participants on an ad hoc basis. Given this recommendation, it would not be necessary to continue the three separate simultaneous workgroups. Instead, those participants that had taken part in the MPC would propose hot topics to the MPSC Staff. MPSC Staff would then poll the rest of the interested parties for concurrence and for agenda items and presentations for the proposed hot topic. MPSC Staff will continue to facilitate the ad-hoc meetings, and provide support as long as the participants have the will to continue.

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## Conclusion

The MPC brought Michigan planning participants together throughout the past year, and provided a venue for participants to become better educated on the transmission planning process, become more involved, and exchange information with each other regarding transmission plans, assumptions, and the planning process. Although significant progress was made in the area of communication and information sharing, there are still several areas where Michigan planning participants do not agree with each other and that is expected to continue due to the varying business strategies and scopes of the planning participants. The MPC participants recommend that the MPC be concluded in its current form, Continuing ad hoc meetings may take place so that planning participants may engage in discussions surrounding transmission planning hot topics, but without overlapping the existing regional transmission planning processes.

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