



advanced  
energy  
management  
alliance

PO Box 65491  
Washington, DC 20035

p 202.580.8284  
e [info@aem-alliance.org](mailto:info@aem-alliance.org)

[aem-alliance.org](http://aem-alliance.org)

March 13, 2019

**VIA ELECTRONIC FILING**

Daniel P. Wolf  
Executive Secretary  
Minnesota Public Utilities Commission  
121 7th Place East, Suite 350  
St. Paul, MN 55101-2147

Re: Minnesota Power's Industrial Demand Response Product  
**Docket No. E-015/M-18-735**

Dear Mr. Wolf:

Enclosed please find Advanced Energy Management Alliance's Reply Comments on Minnesota Power's Industrial Demand Response Product. Feel free to contact me at 202-524-8832 or [Katherine@aem-alliance.org](mailto:Katherine@aem-alliance.org) with any questions related to this matter.

Respectfully,

A handwritten signature in black ink that reads "Katherine Hamilton".

Katherine Hamilton  
Executive Director  
Advanced Energy Management Alliance

**STATE OF MINNESOTA  
BEFORE THE  
MINNESOTA PUBLIC UTILITIES COMMISSION**

---

In the Matter of Petition for Approval of  
Minnesota Power’s Industrial Demand  
Response Product

Docket No. E015/M-18-735

**REPLY COMMENTS OF AEMA**

---

**I. INTRODUCTION**

Advanced Energy Management Alliance (“AEMA”) respectfully submits the following reply comments to the Minnesota Public Utilities Commission (“Commission”) on Minnesota Power’s proposed Rider for Large Power Demand Response. AEMA is a trade association under Section 501(c)(6) of the Federal tax code whose members include national distributed energy resource companies and advanced energy management service and technology providers, including demand response (“DR”) providers, as well as some of the nation’s largest demand response and distributed energy resources. AEMA members support the beneficial incorporation of distributed energy resources, including advanced energy management solutions, into utility planning processes and wholesale markets as a means to achieving electricity cost savings for consumers, contributing to system reliability and resilience, and ensuring balanced price formation. This filing represents the collective consensus of AEMA as an organization, although it does not necessarily represent the individual positions of the full diversity of AEMA member companies.

**II. EXECUTIVE SUMMARY**

AEMA is pleased to provide reply comments on Minnesota Power’s (“MP”) proposed Rider for Large Power Demand Response Service (“DR Rider”). Our reply comments are in relation to Product B. The development of any new program should be in the public interest and ensure savings to both participating and non-participating customers, and AEMA appreciates the thought and concern that certain parties have raised on that subject. However, we feel that there are misconceptions about the value that DR provides to a system that we would like to clarify based on our experience with other regulated utility DR programs and tariffs. We believe the following points are essential to keep in mind when evaluating the benefits of DR programs:

- DR resources provide capacity value simply by being available for dispatch during emergencies; MP will be able to accredit DR capacity under this program with MISO alongside its other generation resources. DR programs do not need to be dispatched in order to drive avoided cost savings for all customers.
- Compensation under DR programs should consider the full scope of avoided generation, transmission, and distribution costs – benefits that accrue to all customers – which is an established practice in states throughout the MISO region. MP’s program may in fact undervalue its DR resources by focusing only on avoided generation costs to determine their compensation level.
- The enrollment of any capacity under Product B will provide net benefits to customers that justify MP’s proposed cost recovery. Every MW of enrollment in Product B will drive more than \$30,000 in net benefits across MP’s system from avoided capacity costs alone.

We elaborate on these principles below. In addition, AEMA also agrees with the product design recommendations raised by Fresh Energy and Citizens Utility Board (“CUB”), respectively, to (a) reduce the minimum required duration for economic curtailments to 1 hour, and (b) establish a dynamic baseline for energy payments. These are thoughtful recommendations that will improve the value and integrity of the program.

### **III. DR IS A VALUABLE CAPACITY RESOURCE THAT MP CAN USE FOR CAPACITY ACCREDITATION WITH MISO**

DR programs drive value by avoiding the need to procure or build more expensive forms of generation. This is a fundamental principle of DR’s capacity value. MISO has recognized this by enabling utilities to accredit emergency-only DR as capacity resources alongside other forms of generation. MP has designed its program in a manner that will enable it to receive full capacity accreditation from MISO. The fact that emergency DR is rarely dispatched by MISO and MP should be viewed as a good thing because it means that the grid is relatively stable and customers are not paying for other, more expensive forms of capacity that would be similarly rarely used.

MP needs tariffs that will incentivize stable and reliable DR resources in the face of increasing emergency dispatches by MISO. While it is true that MP has historically received 100-260 MW of DR under its current emergency capacity product, which pays only \$0.60/kW-month, customers were likely only willing to participate in such a program because the risk of emergency dispatches was extremely low. This historical pattern is changing.<sup>1</sup> MISO's recently approved DR tariff changes increase the likelihood that MISO will issue such dispatches to its Load-Modifying Resources ("LMRs"); without a firm and robust DR program, MP could lose access to a valuable resource that protects all customers from potentially catastrophic blackouts. While some stakeholders suggest that paying \$7/kW-month for capacity that used to be available for \$0.60/kW-month is a raw deal, the reality is that in order for customers to continue participating in a DR tariff, they require incentives that make their participation worthwhile. Given the full scope of DR's benefits, \$7/kW-month is likely a fair capacity price for a firm DR capacity resource, as we explain further below.

#### **IV. DR SHOULD BE COMPENSATED FOR ITS FULL AVOIDED COST BENEFITS, INCLUDING AVOIDED GENERATION, TRANSMISSION, AND DISTRIBUTION COSTS, AS WELL AS CAPACITY VALUE GROSS-UPS PROVIDED BY MISO**

MP proposes to compensate its long-term DR capacity at a rate of \$7/kW-month under Product B, which provides a discount to the cost of building a new combustion turbine ("CT") plant. While some stakeholders worry that this overcompensates DR resources and does not leave enough savings for non-participants, such concerns focus narrowly on the program's avoided generation costs to evaluate its benefits. In reality, DR programs drive a multitude of benefits relative to supply-side resources, the full scope of which should be factored into their compensation.

DR programs in regulated states are typically evaluated on an avoided cost basis to ensure their cost-effectiveness and that they provide net savings to all customers. While generation costs typically account for the majority of avoided cost savings, DR programs also

---

<sup>1</sup> MISO dispatched its emergency DR resources across its North and Central region on January 30-31, 2019, including LMRs registered in MP's territory, to avoid rolling blackouts during a period of extreme cold and forced generation outages. The broader trend throughout MISO has been increasing reliance on its emergency DR resources, which has been a driving force behind reforming MISO's LMR product.

<sup>2</sup> Ryan Hledik et al., *The Potential for Load Flexibility at Northern States Power Service Territory*, prepared for

drive avoided transmission and distribution (“T+D”) costs that should be factored into any cost-effectiveness calculation. This is evident in Table 1 below, which contains a selection of the avoided costs used to evaluate demand side management (“DSM”) programs in multiple MISO states. While these avoided costs cannot be directly compared to MP’s system, they highlight that MP’s DR program will likely drive savings that are not currently captured by its existing compensation. This is especially true given that MP’s program can be dispatched for up to 600 hours of economic curtailments, which are likely to coincide with the periods of peak demand that drive the need for network upgrades.

*Table 1 – Avoided costs used to evaluate DSM program cost-effectiveness across MISO states*

	NSP (Xcel) Minnesota <sup>2</sup>	Wisconsin (state-wide) <sup>3</sup>	MidAmerican Energy (Iowa) <sup>4</sup>	NIPSCO (Indiana) <sup>5</sup>	Ameren (Missouri) <sup>6</sup>
Avoided G costs (\$/MW-yr)	\$63.00	\$130.26	\$119.47	\$122.92	49.80
Avoided T costs (\$/MW-yr)	\$3.10	-	\$16.77	\$2.42	6.40
Avoided D costs (\$/MW-yr)	\$8.00	-	\$35.83	\$46.32	18.60
<b>Total</b>	<b>\$74.10</b>	<b>\$130.26</b>	<b>\$180.15</b>	<b>\$171.66</b>	<b>\$74.80</b>

<sup>2</sup> Ryan Hledik et al., *The Potential for Load Flexibility at Northern States Power Service Territory*, prepared for Xcel Energy by The Brattle Group, at 56 (“Table 10 - Summary of avoided costs/value streams in 2023”) (Jan. 2019).

<sup>3</sup> These figures represent the entire state-wide portfolio of Wisconsin’s DSM programs, which do not include avoided transmission and distribution costs but include \$15/ton of avoided emissions benefits. *Focus on Energy Calendar Year 2017 Evaluation Report, Volume 1*, prepared by Cadmus et al. (May 22, 2018).

<sup>4</sup> These figures represent MidAmerican’s non-residential load management program. *MidAmerican Energy Company’s Application for Energy Efficiency and Demand Response Plan 2019-2023*, Iowa Utilities Board Docket No. EEP-2018-002, exhibit 12 (3 of 4) at 23 (filed July 9, 2018).

<sup>5</sup> These figures are based on programs for large and extra-large customers. *Northern Indiana Public Service Company 2016 Integrated Resource Plan*, at 83, 91 (Nov. 1, 2016), <https://www.nipsco.com/docs/default-source/about-nipsco-docs/2016-irp.pdf>.

<sup>6</sup> These figures are from Ameren’s recently approved MEEIA Cycle 3 filing for new DSM programs, averaged across a 10-year lifespan. *In the Matter of Union Electric Company d/b/a Ameren Missouri’s 3<sup>rd</sup> Filing to Implement Regulatory Changes in Furtherance of Energy Efficiency as Allowed by MEEIA*, Missouri Public Service Commission Docket No. EO-2018-0211, Order Approving Stipulation and Agreement and Granting Waivers, Appendix C (Dec. 5, 2018).

Therefore, when considering the appropriate compensation level for MP's tariff, the Commission should consider the fact that DR programs provide additional benefits beyond avoided generation capacity. Utilities such as Ameren Missouri have recognized this fact, stating that DR resources are "generally much more cost-effective than supply side resources and generate net benefits to an extent that most supply-side resources cannot".<sup>7</sup> The avoided cost of generation capacity should therefore be considered a price floor for DR programs at which significant net benefits are generated for all customers. Using the selected programs in Table 1 as a rough benchmark, MP's customers may receive an extra 20% to 50% in avoided costs savings from currently unquantified T+D benefits under the proposed program.

Finally, MP's proposed program will drive even further benefits for all customers by reducing the need for MP to procure capacity to meet MISO's required reserve margin. MISO's reserve margin for the current 2018/19 delivery year is 8.4% and MISO grosses-up the capacity value of its DR resources by an equivalent amount in recognition of this benefit.<sup>8</sup> This means that MP could accredit 100 MW of DR under its tariff for 108.4 MW of capacity with MISO. Since this gross-up is not incorporated into the compensation that participating customers receive, those savings are passed directly on to non-participants, who effectively receive 8.4% more capacity than they actually pay for under this program.

Taken together, MP's DR resources would provide MP with long-term planning resources that would drive significant cost savings for all customers. Given the projected \$4.5M in avoided generation cost savings that this program would drive if all 150 MW are fully enrolled, each MW of capacity under Product B drives \$30,000 in savings to all customers. This should be viewed as a low-risk win for non-participants, who receive additional benefits from avoided transmission and distribution costs and MISO gross-ups for which they do not have to pay at all.

#### **IV. RECOMMENDED ENHANCEMENTS TO PRODUCT DESIGN**

AEMA agrees with the recommendation from Fresh Energy to remove the minimum 4-hour duration for Firm Load Control dispatches. This is a common-sense improvement that

---

<sup>7</sup> *In the Matter of Union Electric Company d/b/a Ameren Missouri's 3<sup>rd</sup> Filing to Implement Regulatory Changes in Furtherance of Energy Efficiency as Allowed by MEEIA*, Missouri Public Service Commission Docket No. EO-2018-0211, Surrebuttal Testimony of Matt Michel, at 14, lines 1-3 (filed Sept. 17, 2018).

<sup>8</sup> MISO Business Practice Manual: Resource Adequacy, Manual No 11, section 4.2.9.5 at 65 (Feb. 20, 2019).

would enhance the flexibility of the resource and enable MP to better target peak load hours. It would also reduce the risk that customers are required to curtail usage or buy-through events during hours where there is relatively limited value in them doing so. However, given that frequent curtailments can be disruptive to customers, AEMA recommends that the existing limit of two firm load control events/day be retained even if this change is incorporated.

AEMA also agrees with the recommendation from CUB to profile usage from recent non-event days to set a dynamic baseline for events. We recommend something like an adjusted high 4 of 5 baseline, which is currently used in PJM to evaluate performance in economic events<sup>9</sup> and has been proven to provide greater accuracy, less bias, and greater integrity than baselines that are set using a simple average of the usage during the hours prior to the event. While we do not believe there is a high likelihood of baseline manipulation under the current methodology,<sup>10</sup> this change would ensure that customers are fairly and accurately compensated for their energy curtailments during events, which should be a key goal of any program.

## V. CONCLUSION

AEMA appreciates the opportunity to provide our perspective on these important issues. MP's DR Rider would drive cost savings for all MP customers, and the proposed compensation level is justified based on the robust avoided cost savings that each enrolled MW of capacity would bring to MP's system and the necessity to provide customers with sufficient incentives to participate. AEMA therefore recommends that the Commission approve MP's program with the minor improvements suggested herein.

Respectfully submitted,



Katherine Hamilton  
Executive Director, Advanced Energy Management Alliance  
1200 18th Street, NW, Suite 700  
Washington, DC 20036  
[Katherine@aem-alliance.org](mailto:Katherine@aem-alliance.org); 202-524-8832

March 13, 2019

---

<sup>9</sup> PJM Market Manual 11, Energy & Ancillary Services market Operations, section 10.4.2 at 138-143 (Feb. 7, 2019).

<sup>10</sup> In order to manipulate their energy baseline, customers would need to have headroom to increase their energy usage prior to events, which many customers, especially those with 24/7 operations, tend not to have. Further, the incentives for customers to inflate their usage are relatively small because customers have to pay for the additional energy they consume, and the event credit of \$30/MWh that customers receive under the program is fairly low.