

August 9, 2016

Mr. John Lawhorn
Senior Director of Policy and Economic Studies
Midcontinent Independent System Operator
P.O. Box 4202
Carmel, IN 46082-4202

Dear Mr. Lawhorn,

The Michigan Agency for Energy (MAE) and the Michigan Public Service Commission (MPSC) request that the Midcontinent Independent System Operator (MISO) conduct a study to help the State of Michigan better understand the effects of declining reserve margins in emergency situations. As you know, Michigan has recently experienced a large number of plant retirements in the very recent past, and MISO's regional planning and modeling expertise is necessary and invaluable to us as we look to determine whether Michigan is on track to continue meeting its reliability goals, including the goal never to experience a massive outage due to a lack of supply.

Many fundamental characteristics of the Bulk Electric System (BES) have evolved over the last five years, and change to the system is expected to accelerate. With system-wide capacity shortfalls in MISO anticipated as soon as 2018 per the 2016 MISO-OMS Survey, it is critical for Michigan to understand whether our system still can support the level of reliability it was able to show a few years ago. To that end, we request that MISO conduct a scenario analysis that considers updated system assumptions specific to Michigan's unique structure. An attachment to this letter outlines recent and expected changes to the electricity system that could have an impact in Michigan.

Declining reserve margins in MISO and in Michigan require that we more fully understand the implications on Michigan, specific from MISO, of certain energy emergencies. As such, MAE requests that MISO assess and inform Michigan of vulnerabilities associated with simultaneous planned or unplanned outages at Palisades Power Plant (Palisades) and Fermi, Unit 2 (Fermi 2) nuclear energy facilities. These two facilities are capable of producing a combined 1,855 MW of reliable baseload power.

We did not pick this scenario randomly. Rather, it is our goal to understand what would happen in the summer of 2018 if we had a recurrence of the events that occurred in the summer of 2012, when there were simultaneous outages at these two nuclear facilities while MISO was under a hot weather alert. Obviously, in 2012, we were able to sustain the grid in those conditions. We would like to know if that would still be expected to be true.

Accounting for the retirement of numerous coal-fired generation this summer and other expected future changes to the system, we request that MISO conduct an analysis that assumes Palisades and Fermi 2 are offline, and then determines for MISO zone 7 (1) what internal generating capacity, (2) what contracted capacity, (3) what import capability; and (4) what capacity and transmission service from outside of Michigan, could be available to serve Michigan load. We appreciate your consideration of this request and are happy to address any additional questions you would have and provide any technical assistance that would be requested in support of this study.

Sincerely,

Valerie Brader
Executive Director
Michigan Agency for Energy

Sally Talberg
Chairman
Michigan Public Service Commission

System Conditions for MISO's Consideration

Generation

1. Retirement of coal-fired generators in Michigan:
 - a. In 2013, one DTE Harbor Beach unit (121 MW) retired.
 - b. In 2016:
 - i. Two DTE Trenton Channel units (7a and 8) (240 MW) retired.
 - ii. Two CE BC Cobb units in Muskegon (312 MW) retired.
 - iii. Two CE JC Karn-Weadock units in Essexville (312 MW) retired.
 - iv. Three CE JR Whiting units in Erie (345 MW) retired.
 - v. One Michigan South Central Power Agency's Endicott unit in Litchfield (55 MW) retired.
 - c. In 2017, three Holland Board of Public Works DeYoung units (3, 4, and 5) (63 MW) retiring.
 - d. In 2018, six Lansing Board of Water and Light Eckert units (335 MW) retiring.
2. Palisades Nuclear power station offline after 2022 (PPA Expiration) (NRC operating license expires in 2031).
3. Fermi 2 nuclear power station remains online after 2025 (NRC license renewal is expected)
4. Announced retirement of Quad Cities nuclear power station on June 1, 2018.
5. Announced retirement of Clinton nuclear power station on June 1, 2017.
6. New Wolverine 410 MW Alpine natural gas simple cycle generating unit in Elmira Township, MI.
7. New 280 MW (summer peak) natural gas combined cycle generation in Marquette County, MI with expected in-service date in December 2019 (Project J394).
8. Impact of generation pseudo-ties out of MISO.

Load

9. Retirement of Empire Mine in 2016.

Transmission

10. Plains to National proposed transmission line moved to MTEP Appendix B.
11. 230 kV underground line from Sault Ste. Marie, Ontario to Sault Ste. Marie, MI. Presidential Permit granted.
12. Congestion mitigation of Lake Michigan loop flow.
13. Increased transfer capability across the Straits of Mackinac.
14. Maintenance flexibility for northern Lower Peninsula transmission.

15. Management flexibility of Ludington Pumped Storage asset.
16. Contribution of high voltage, direct-current flow control device and associated substation in eastern Upper Peninsula.
17. Approved MTEP reliability projects in advanced stages of development.

Other Considerations

18. New Michigan Upper Peninsula (MI-UP) Load Balancing Authority area.
19. Updated MTEP Models and Futures Scenarios.
20. Impacts voltage and local reliability (VLR) constraints and Revenue Sufficiency Guarantee (RSG) make-whole payments.