20200504-5029 FERC PDF (Unofficial) 5/1/2020 6:00:09 PM

Dear Mr. Byrd:

Attached, please find the proposed additions to FERC staff's initial agenda for the May 4 technical conference in ER20-588. The additions are noted in red, and are supported by the intervenors noted below.

1. Citizens Utility Board of Wisconsin
2. Alliant Energy Corporate Services, Inc.
3. Consumers Energy Company
4. DTE Electric Company
5. RWE Renewables Americas
6. EDF Renewables Dev. Inc.
7. Savion LLC
8. Citizens Against Rate Excess
9. National Hydro Association
10. Clean Grid Alliance
11. Solar Council
12. Invenergy Storage Development LLC
13. Sustainable FERC Project
14. On behalf of LSP Transmission Holdings II, LLC
15. American Wind Energy Association

Sincerely,

Gabe Tabak
Counsel
American Wind Energy Association
gtabak@awea.org

20200504-5029 FERC PDF (Unofficial) 5/1/2020 6:00:09 PM

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Midcontinent Independent System Operator, Inc. Docket No. ER20-588-000

NOTICE OF TECHNICAL CONFERENCE

(April 10, 2020)

By order dated March 10, 2020, the Commission directed staff to convene a technical conference regarding Midcontinent Independent System Operator, Inc.'s (MISO) filing of proposed revisions to its Open Access Transmission, Energy and Operating Reserve Markets Tariff to allow for the selection of a storage facility as a transmission-only asset (SATOA) in the MISO Transmission Expansion Plan (MTEP). The technical conference will explore issues including, but not limited to, MISO's proposed evaluation and selection criteria for SATOAs, the SATOA's market activities and any potential wholesale market impacts of those activities, how MISO's current formula rate structure accommodates cost recovery for SATOAs, a SATOA's potential effects on the generator interconnection queue, and operating guides that will apply to a SATOA.

Take notice that the Commission will hold this staff-led technical conference on Monday, May 4, 2020, between 9:00 am and 5:00 pm (Eastern Time). This conference will be held remotely, as further described below.

Participants should be prepared to discuss, at minimum, the following:

A. Evaluation and Selection Criteria for SATOAs

MISO proposes Tariff language stating that, to be selected for inclusion in Appendix A of the MTEP as a transmission asset, a proposed SATOA must demonstrate:

> **a.** Unique characteristics or circumstances of the proposed SATOA necessary to meet the identified Transmission System performance requirements and not otherwise available at comparable costs from other proposed solutions, including speed of operation, lead-time to implement, right-of-way, or other property considerations.

> **b.** A need to resolve the Transmission Issue(s) through the storage facility's functioning as a SATOA instead of as a Resource that participates in [MISO's] markets.

MISO states that an example of a unique characteristic is the storage asset's ability to rapidly inject and withdraw real or reactive power in solving transmission issues that could not otherwise be resolved if the storage asset was participating in markets.

1. What is an "identified Transmission System performance requirement?" How and where are they identified? What is the difference between an identified Transmission System performance requirement and a Transmission Issue? What are examples of Transmission System performance requirements that can be addressed by a proposed SATOA?

   What is MISO's definition of "rapidly inject"? Does MISO consider SATOA to be uniquely qualified to "rapidly inject or withdraw real or reactive power" in the time needed to address transmission reliability issues? If yes, please address why capacitors and reactors cannot achieve this purpose?

2. What criteria will MISO consider when determining whether a proposed SATOA has unique characteristics or circumstances necessary to meet the identified transmission system performance requirements? How does MISO intend to communicate these criteria to stakeholders and participants in the MTEP? What does MISO mean by "other property considerations"?

3. What criteria will MISO consider when determining whether there is a need for the storage facility to solve the transmission issue through the storage facility's functioning as a SATOA instead of as a resource that participates in MISO's markets? How does MISO intend to communicate these criteria to stakeholders and participants in the MTEP?

   Please explain how a SATOA could qualify for the following MTEP project categories: New Transmission Access Project, Market Efficiency Project, Market Participant Funded Project, Targeted Market Efficiency Project, Multi-Value Project, or Other Project.

   The "Other" Transmission Project category is readily approved by MISO so long as no harm will occur and without any further testing. Please discuss the process MISO will use to evaluate whether a SATOA proposed as an "Other" Project category is actually serving a transmission function and not

proposed for asset renewal, distribution issues, operational issues, or to relieve congestion, which also apply to Other Projects.

4. With regard to MISO's example of a unique characteristic–i.e., a storage asset's ability to rapidly inject and withdraw real or reactive power in solving transmission issues–how can storage as transmission be distinguished from storage resources participating in markets that could have their dispatch schedules adjusted to rapidly inject or withdraw real or reactive power to solve transmission issues if needed as part of the normal security constrained dispatch of market resources?

   How will SATOA be modeled in MTEP for dispatch purposes, i.e., as a generator with dynamic reactive capability, other? Please also distinguish this with MISO's claim that it cannot meet the requirements of Order No. 841 to include energy storage in its models until 2022.

5. If a traditional transmission project and a SATOA can both meet a transmission system performance requirement equally well, how will MISO determine which solution to select in the regional transmission planning process? If multiple SATOA proposals have unique characteristics or circumstances necessary to meet the identified transmission system performance requirements, how will MISO determine which solution to select in the regional transmission planning process?

   MISO's Tariff requires it to evaluate baseline reliability projects for market efficiency project (MEP) benefits. For SATOA solutions proposed to address reliability needs, will MISO also evaluate the reliability solutions for market efficiency benefits? If so, how will MISO perform the evaluation and what metrics will be used? How will MISO compare the MEP benefits of SATOA to a transmission investment in deciding which project to select? What metric is MISO using to compare a permanent wires solution that will have multiple reliability benefits vs. battery storage that only has a limited time duration to address a problem?

6. If the entity that proposes a SATOA does not provide sufficient information for MISO to determine whether the SATOA meets the criteria outlined in the Tariff excerpted above, how will MISO proceed? For instance, will MISO attempt to determine if the SATOA meets the criteria using MISO's own independent analysis? Will that analysis be available to other participants in the regional transmission planning process?

7. How will MISO's evaluation criteria ensure that SATOAs are limited to only those electric storage resources that are performing a transmission-specific function?

8. Please explain how MISO will communicate its decision in approving a SATOA. For instance, MISO stated in its filing that there is currently a storage resource pending as a recommended project in MTEP19. Is the explanation provided in the MTEP19 executive summary regarding this recommended project representative of the type of explanation that MISO intends to provide in the future? What steps will MISO take if additional information is requested from participants in the regional transmission planning process?

   Order No. 1000 allows for transmission planning participants to offer alternative plans to resolve transmission issues. How does MISO plan to ensure that transmission issues can still be addressed by entities other than existing Transmission Owners proposing SATOA?

MISO states that comparative evaluations of a proposed SATOA will include the minimum and maximum capacity required to address the transmission issue to ensure that excess storage capacity is not treated as a transmission asset. MISO further states that cost recovery under transmission rates is limited to the cost of the maximum capacity to be determined needed to address the transmission issue.

9. How will MISO determine the maximum capacity needed to address the transmission issue? Please explain.

   If a SATOA asset is approved in the MTEP, with MW capacity in excess of what is needed to address the transmission need, will the asset be studied to ensure that market revenues justify the cost of the extra capacity? If so, what benefits will be considered and what dispatch assumptions will drive the results?

MISO states that cost recovery under transmission rates is limited to the cost of the maximum capacity determined to be needed to address the Transmission Issue and will be pro-rated on that basis if a SATOA of higher capacity is proposed, selected for inclusion in Appendix A of MTEP, and installed.

* Please explain in detail how the pro-rating process would work.
* If a SATOA is approved with capacity beyond what is needed to address the transmission issue, how does the pro-rating process ensure that the non-transmission related capacity is not recovered in transmission rates?

* What is the rationale for approving excess capacity beyond what is needed to address a transmission need?

* How will MISO ensure that the capacity dispatched to address the transmission need does not exceed the capacity approved for recovery in Attachment O? In the event this occurs, how will MISO reconcile a transmission owner that is charging customers for capacity that was not approved for cost recovery?

* MISO claims the minimum and maximum capacity limits will prevent ratepayers from subsidizing additional capacity. MISO claims this provision recognizes that "additional Capacity may be offered into the market at a future time as may subsequently be allowed, or for design or other purposes." How will MISO determine the fixed costs that contribute to this "additional" capacity? Can an affiliated merchant entity add additional capacity to a SATOA while sharing facility and/or operating costs?

* If a SATOA is approved subsequently as a market asset, would state commissions have jurisdictional control over the portion of the asset that is dispatched to serve load as a generation asset? If not, please explain the separation of jurisdictional control.

* Is there a minimum or maximum size/duration of a SATOA project? If not, please explain. If there is no size/duration limit, how will MISO ensure that larger SATOA projects (e.g., >100 MW), with capacity significantly in excess of the transmission need, will not impact markets.

B. SATOA Market Activities and Market Impacts

MISO states that the SATOA owner is responsible for maintaining the necessary state of charge to be ready to serve the transmission function for which it was approved in the MTEP, and MISO will exercise functional control of the SATOA for transmission purposes only, i.e., charging and discharging to meet the transmission need will be done at the direction of MISO.

10. What does it mean for a SATOA to be under MISO's "functional control," while making the SATOA owner responsible for maintaining state of charge? Will MISO tell the SATOA when to charge and discharge while the SATOA is performing to meet the transmission need? What is the practical difference, if any, between charging/discharging to "meet" the

transmission need and charging/discharging to be "ready to serve" the transmission need?

11. How will MISO ensure that a SATOA under its "functional control" is available (e.g., not fully charged when needed to withdraw power and not fully discharged when needed to inject power) to solve a transmission issue?

12. Please explain your view on whether and, if so, how the charging/discharging activities of the SATOA directed under MISO's functional control or, in connection with the SATOA owner's responsibility to maintain state of charge, impact the wholesale energy and capacity markets. For example, would these activities impact transmission capacity, congestion, and/or other resources' ability to meet energy and ancillary services needs, etc.? Please explain.

MISO proposes that the SATOA owner will need a registered market participant to receive energy net costs when charging and discharging under MISO's functional control. MISO states that the market participant for a SATOA will be credited the applicable Real-Time Ex Post LMP for Non-Excessive Energy and will be charged for Non-Excessive Energy withdrawals. MISO explains that the SATOA market participant then must provide the net revenues back to the transmission owner, and those net revenues will offset the transmission revenue requirement associated with the resource. MISO states that the SATOA will be a price taker.

13. Does a SATOA's direct participation in the wholesale energy markets as a price-taker create potential impacts on the wholesale energy and capacity markets by, for instance, displacing otherwise marginal or infra-marginal resources and possibly changing the energy market price? Why or why not? If energy market impacts occur, will they be minimal or might they be mitigated, and if so how?

    Please clarify whether a SATOA would be treated as a must-run unit with a zero or negative marginal cost. If this is not the case, please explain the marginal cost applicable to a SATOA.

    How will MISO perform analysis to determine if SATOA is impacting energy market prices and how will MISO differentiate between minimal and harmful impacts? Has MISO run any simulations to determine the potential for market impacts?

14. Please provide further information on: (1) what types of entity could serve as the SATOA's market participant; (2) whether such market participant and/or the SATOA owner would have market-based rate authority; and (3) if the market participant were affiliated merchant function staff, how the standards of conduct would be met.

How would MISO investigate standards of conduct compliance and what range of disciplinary actions is MISO willing to assert where cases of misconduct are identified?

C. Cost Recovery for SATOAs

MISO proposes that costs resulting from a SATOA's market activities directed under MISO's functional control be collected through transmission rates in a manner consistent with the treatment of costs associated with the transmission project type in which the SATOA is included in Appendix A to the MTEP. Any revenues collected from the SATOA's market activities directed under MISO's functional control would be credited through transmission rates in a manner consistent with the treatment of costs associated with the transmission project category in transmission rates.[8]

15. How does MISO's current formula rate structure in Attachments O, GG, or MM accommodate cost recovery for SATOAs? Are any of those provisions sufficient to allow net market revenue to be credited through the transmission revenue requirement? Will the net energy revenue be credited outside the existing formulas, e.g., through a separate rider?

16. If the existing formulas will need to be modified to accommodate SATOAs, what types of modifications are needed and when will such modifications be filed to ensure that they are effective before a SATOA becomes operational?

D. Impact on the Generator Interconnection Queue

MISO proposes that, if it or a stakeholder identifies a potential impact to newly-interconnecting generation resources in the interconnection study process, MISO will assess whether the proposed SATOA will have an impact. If the assessment demonstrates that the necessary operating mode of the proposed SATOA will cause the need for additional system mitigation, the cost of such mitigation will be included in the evaluation of the proposed SATOA as compared with other potential transmission solutions. MISO proposes that its impact assessment may include targeted contingency analyses applying NERC TPL and applicable regional and local planning criteria to evaluate the incremental impact.

17. Please provide further details on how MISO would assess the impact of a proposed SATOA on newly-interconnecting generation resources and compute costs if system mitigation is needed. Would MISO account for changes due to restudies in the interconnection study process and, if so, how? Could a SATOA be considered a contingent facility? Will MISO's interconnection procedures be modified to include any of these details? Does MISO intend to include any of these details in its Business Practice Manuals? Will the analysis of the impact of the proposed SATOA on the newly-interconnecting generation resources be available to market participants in the regional transmission planning process and/or interconnection customers in the interconnection queue?

18. Will MISO's assessment of impacts include assessment of delays in the interconnection queue, and if so, how would MISO mitigate those delays? If not, why is it not necessary to assess potential delays to the interconnection queue as a result of a proposed SATOA?

19. MISO states that the cost of additional mitigation if the SATOA affecting newly-interconnecting generation resource is selected as the preferred transmission solution in the MTEP will be included in the *evaluation* of the proposed SATOA. Will such costs also be included in the total SATOA cost recovered through transmission rates and, if so, how?

    Please address how MISO will assure that earlier-in-time generation that has been waiting to be studied by MISO will not lose available injection capacity to SATOAs that were added in the MTEP process and could usurp available capacity?

    Please address what criteria MISO will employ to ensure that discharging a SATOA will not usurp transmission capacity that an operating generator has created through funded network upgrades. Has MISO studied this?

    Please address how inverter interactions (i.e., subsynchronous resonance) between SATOAs and earlier-in-time generation that has been waiting to be studied by MISO will be handled. Who will pay for the studies and necessary mitigations when those earlier-in-time DPP projects are impacted by SATOAs that come online through the MTEP process?

    Please explain at what point in the DPP process an approved SATOA can be included in GI study models to not impact projects waiting in the queue to be studied.

Please describe how a SATOA studied in MTEP models under N-2 conditions will be modeled in the DPP studies for NERC category P3 and P7 events which generally include multiple (N-2 and higher) contingencies.

Please explain how SATOAs will be modeled in Transmission Service Request Studies and at what point will they be input into those models.

MISO presently conducts a harm test as part of its GI studies to evaluate if a withdrawing IC negatively impacts equally or lower queue ICs in the GI queue. MISO also requires the posting of at-risk financial security as a mitigating measure to protect harmed ICs. Will MISO perform this same harm test if a transmission owner terminates an approved SATOA and such termination harms interconnection customers in the GI queue? If so, will MISO require transmission owners to post at-risk financial security in a manner equal to that required of interconnection customers to address the harm? If not, explain why not.

E. Operating Guides

MISO states that it will coordinate with the SATOA owner, MISO Operations, and the transmission operator to develop an operating guide that will establish (1) conditions for which the SATOA should be discharged and charged to meet the anticipated planning objective and (2) boundaries for operation that will be consistent with this objective and will reflect the unique operating parameters of the individual SATOA.

20. Please provide a summary and explanation of the information that may be contained in the operating guides. Please provide specific examples of the information to be contained in the operating guides.

Please describe the anticipated level of stakeholder involvement and transparency in the development of the operating guides. How will MISO transparently share information with stakeholders about storage as transmission power injections, given that operating guides are confidential?

How will MISO monitor to ensure that SATOA are not operating outside of the operation guide? Will MISO allow SATOAs to repeatedly operate outside of their specified operation guide? If not, how will MISO prevent this because it has not proposed any punitive measures or consequences?

F. Miscellaneous

21. Are there any scenarios where a SATOA might be called upon under emergency conditions to relieve an issue outside of the specific transmission issue for which the SATOA was selected? If so, how will MISO handle any out-of-market payments that the SATOA receives?

Where in the generation deployment stack is SATOA? Will MISO ensure that SATOA is only deployed as a last resort, so as not to harm other emergency resources?

22. Are SATOAs studied for reliability impacts in the same way as storage as non-transmission alternatives, particularly regarding dynamic stability? If not, why not? Please explain in detail how SATOAs will be studied for reliability impact.

Please describe the difference between the local balancing area dispatch used in MTEP studies and the fuel-based dispatch used for new generation/injection studies in the DPP and how it is possible for a MTEP study to be equivalent to a DPP study in terms of reliability for a new injection of power on the grid.

MISO states that, later on, it will assess how to allow a SATOA to participate in MISO's markets, which will require a study in the generation interconnection process for the additional capacity beyond that needed to address the transmission reliability need. Please explain why a SATOA will not have an inherent advantage in RFPs and to participate generally in MISO's markets by already being located on the transmission grid?

Please address whether MISO is willing to not allow a SATOA to ever participate in MISO's markets, such that it only functions to address the identified transmission need. If the answer is no, please explain why not.

MISO currently uses generation to address transmission needs that are identified in the MTEP process but requires the generation to first go through the generator interconnection process. A SATOA, like a generator, injects power on the grid and would be used to address similar transmission needs, yet would be exempt from the generator interconnection process. Will MISO be seeking to align these two processes such that all generators can now serve a transmission-only function and similarly bypass the interconnection queue when a MTEP reliability need is identified?

Please explain why a SATOA may not follow the interconnection process whereas an identical storage project proposed by a non-transmission owner will have to follow the interconnection process?

How is the SATOA proposal consistent with MISO's commitment to evaluate transmission projects and non-transmission alternatives on a comparable basis with the objective of recommending the best overall solutions? Please explain why the SATOA proposal does not provide an unduly discriminatory preference for transmission owner projects over identical non-transmission owner projects?

The technical conference will be led by Commission staff, and is open to the public. All people interested in participating in the conference must register at the following link: https://www.ferc.gov/whats-new/registration/05-04-20-form.asp by no later than noon on May 1, 2020. There is no registration fee. Information on joining the technical conference will be posted on the Events Calendar available at https://www.ferc.gov/EventCalendar/EventsList.aspx?View=listview.

The conference will include discussions between Commission staff and MISO. If time permits, there may be an opportunity for parties that are participating in the conference to ask questions or provide comments. The proposed agenda for the technical conference is described below. Procedures to be followed at the conference and any changes to the proposed agenda will be announced by staff at the opening of the conference. The technical conference will not be transcribed.

Commission conferences are accessible under section 508 of the Rehabilitation Act of 1973. For accessibility accommodations, please send an email to accessibility@ferc.gov or call toll free 1-866-208-3372 (voice) or 202-502 -8659 (TTY); or send a fax to 202-208-2106 with the required accommodations.

Following the technical conference, the Commission will consider post-technical conference comments submitted on or before May 25, 2020. The written comments will be included in the formal record of the proceeding, which, together with the record developed to date, will form the basis for further Commission action.

For more information about this technical conference, please contact Mark Byrd, 202-502-8071, mark.byrd@ferc.gov. For information related to logistics, please contact Sarah McKinley, 202-502-8368, sarah.mckinley@ferc.gov.

Nathaniel J. Davis, Sr.,
Deputy Secretary.

Storage as a Transmission-Only Asset (SATOA) in MISO

Technical Conference - Webex Teleconference

Monday, May 4, 2020
9:00 a.m. – 5:00 p.m.

9:00 a.m. – 10:30 a.m. Evaluation and Selection Criteria for SATOA

- Identified Transmission System performance requirement
- Unique Characteristics or Circumstances
- Functioning as SATOA Compared to Market Participant

10:30 a.m. – 10:45 a.m. Break

10:45 a.m. – 11:30 a.m. Evaluation and Selection Criteria for SATOA (continued)

- Traditional Transmission Project compared to SATOA
- SATOA Evaluation Criteria
- Communication of Decision Approving a SATOA

11:30 a.m. – 12:45 p.m. SATOA Market Activities and Market Impacts

- Meaning of "Functional Control"
- Impact of SATOA Activity on Wholesale Market
- Information Regarding Market Participant

12:45 p.m. – 1:30 p.m. Lunch

1:30 p.m. – 2:15 p.m. Cost Recovery for SATOAs

- Formula Rate Structure

2:15 p.m. – 3:30 p.m. Impact on the Generator Interconnection Queue

- Assessing the Impact of a SATOA on Newly Interconnecting Generating Resources
- Assessment of Delays and Mitigation

3:30 p.m. – 3:45 p.m. Break

3:45 p.m. – 4:15 p.m. Operating Guides

- Information in Operating Guides

4:15 p.m. – 5:00 p.m. Miscellaneous

- Emergency Conditions
- Reliability Impacts

20200504-5029 FERC PDF (Unofficial) 5/1/2020 6:00:09 PM

Document Content(s)