

Demand Response Aggregation Stakeholder Meeting

Michigan Public Service Commission

March 12, 2019



Meeting Agenda

- Staff overview of the February 13th stakeholder meeting
- Staff review of written participant feedback
- Exploring “other” state models
- Potential elements for a Staff proposal
- Questions, Discussion and Next Steps

February 13th Stakeholder Meeting

- Background on demand response aggregation and why we are here today
 - U-16020, U-18369 and U-20348
 - FERC Orders 719 and 745
- Commission goals and directives
 - U-20348 seeks to establish a process for DR aggregation for customers who are served by an Alternative Electric Supplier (AES) and directs Staff to work with interested stakeholders and file a report no later than May 30th.
- Capacity Demonstration Process and Requirements
 - Consideration of potential changes to the currently approved capacity demonstration process and requirements.
- MISO overview of ARC's, their DR registration process and notifications to the utility and RERRA (MPSC).
- Q&A with Consumers and DTE

February 13th Stakeholder Meeting

- Voltus
 - Registered ARC with MISO, walked us through how they register DR and compared Illinois to Michigan DR potential.
 - Walked us through a Michigan dispatch event from January.
- AEMA
 - Foundations of demand response and what it would take to be successful in Michigan.
 - Provided recommendations for Michigan to consider.
- Feedback Request
 - Staff posed several questions to generate discussion and requested written feedback in hopes to continue that discussion today.

Feedback Request

State vs. Federal Jurisdiction

Per FERC Order 719, it is clear that the Relevant Electric Retail Regulatory Authority (RERRA) may prohibit 3rd party Demand Response (DR) aggregation in their jurisdiction. However, it is unclear whether the MPSC can partially permit aggregation and also place restrictions on multiple Alternative Electric Supplier (AES) (e.g. AES1, AES2) aggregation and who is able to register the aggregated DR at MISO.

- Do the MPSC's Orders in Case Nos. U-16020, U-18369 or U-20348 raise any jurisdictional questions in your mind?
 - Example: Does the MPSC have the authority to prohibit aggregation across multiple AESs?
 - Example: Would the MPSC be able to permit the aggregation of AES customers, with only this strict condition that the AES is the entity that registers the aggregated DR with MISO?

State vs. Federal Jurisdiction

- Areas of agreement
 - Per Order 719, the RERRA can prohibit direct participation of retail customers.
- Areas of disagreement
 - The MPSC may need additional Legislative authority if it wishes to partially restrict DR aggregation
 - Who should be able to register aggregated DR?
 - ARCs vs. AESs
 - Restricting this may impose a barrier on DR and customer flexibility.

Tracking Aggregated DR

Per MISO's Business Practice Manual (BPM) 1 Sec. 9.5, MISO will notify the MPSC of every new aggregated customer and provide who is the market participant, the MW amount, the load balancing area (LBA), and Commercial Pricing (CP) Node information.

- a. Is this information sufficient to allow the MPSC to track DR and ensure double counting is not occurring?
- b. How would the MPSC be able to track DR that has been procured out of state for use in Michigan and what would be necessary for the MPSC to track DR in other states?
- c. Would your answers for the prompt-year and a four-year forward capacity demonstration differ? How so?

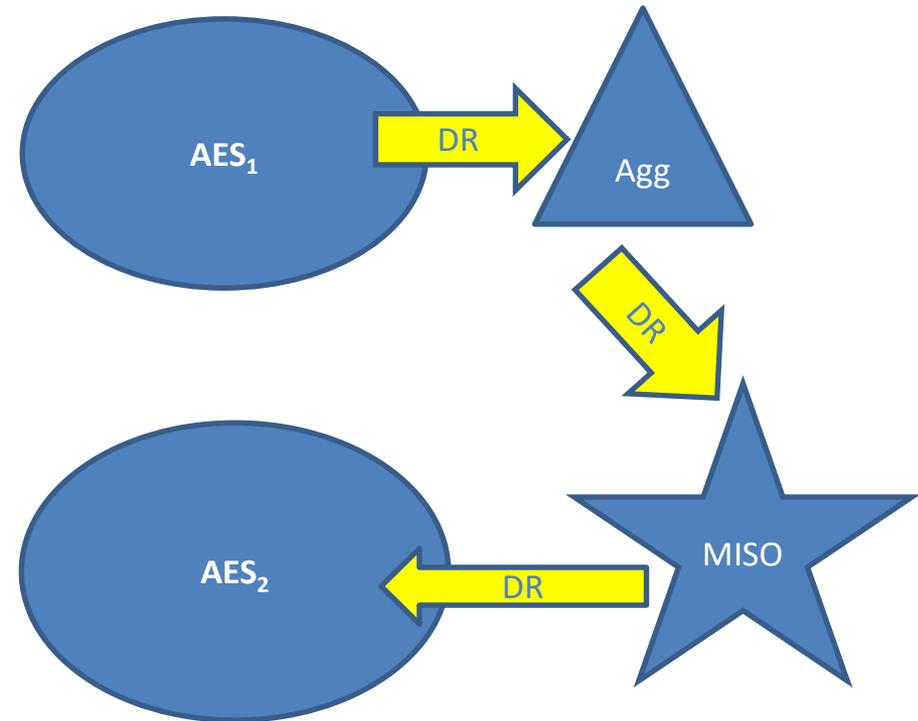
Tracking Aggregated DR

- Areas of Agreement
 - Customer account info (name, account #, address) may be useful info to have.
 - No need to track out of state DR as ZRC's are fully tradable in the prompt year.
 - MISO system is sufficient to track these in the prompt year.
- Areas of Disagreement
 - Whether the MPSC needs to track this DR or leave to the RTOs.
 - Whether it is the MPSC's or the RTO's responsibility to ensure double counting doesn't occur.
 - The amount of information the MPSC and/or the AES needs from the ARC.

The Effects of Aggregated DR on an LSE's Capacity Requirement

A Load Serving Entity (LSE's) capacity requirement is determined by their historical Peak Load Contribution (PLC).

- a. What potential problems does aggregation of DR resources across multiple AESs' have on the PLC calculation?
- b. Example: An aggregator procures DR from AES1. The aggregator sells this DR into the market, where it is procured by AES2 to meet their capacity requirement. If this DR is dispatched on the MISO peak, AES1's PLC is reduced by xMW, even though that DR has been sold to AES2. The next year, AES1 would have a lower capacity requirement and AES2 would still have the same capacity requirement as the previous year.
 - i. Is this accurate?
 - ii. If so, is this a problem and what can be done to fix it?



The Effects of Aggregated DR on an LSE's Capacity Requirement

- Areas of Agreement

- Most agree this is a problem when dispatched on peak
- Most agree that any solution would involve “adding back” the DR amount to the PLC
- The importance of reporting and communication when multiple AESs are involved.

- Areas of Disagreement

- Whether MISO tariff already accounts for a multiple AES situation.
 - Tariff adds DR load dispatched on peak, back in to the load of the customer's LSE for next year's load calculation.
 - Unclear whether MISO is able to properly determine the amount of DR to add back in to the load calculation
- Whether the AES, EDC, MPSC or the RTO have the responsibility to determine and/or track the amount of DR to add back in to the load calculation for AES₁.
 - Would an AES, the EDC, or the MPSC know when an aggregated customer's load is reduced, since the ARC is the MP?
- Whether ARCs should be required to provide customer level data to the AES or EDC.
 - In order to validate DR dispatch and subsequent load reduction.
- To what extent that the ARC should interact and communicate with the AES

Acceptable Reporting Requirements for Capacity Demonstration

Through the capacity demonstration process, EDC's and/or LSE's are able to show that they have enough resources to cover their capacity commitment. For supply side resources, the MPSC has a process for determining the availability and certainty of resources combined with adequate documentation from utilities and their partners.

- a. What procedure would be appropriate to apply to demand side resources, particularly aggregated demand response that could be spread across multiple service territories and multiple AES customers?
 - i. Should a forward ZRC contract be treated any differently than if it was a ZRC contract four years forward with a supply-side generation owner?
- b. What information would be sufficient to ensure capacity exists for the commitment period?
- c. What entity would be best to supply this information?
- d. Should a four year forward ZRC contract for aggregated DR be considered an acceptable resource if submitted as part of a capacity demonstration on behalf of a utility, municipality or cooperative?

Acceptable Reporting Requirements for Capacity Demonstration

- Areas of Agreement
 - The current procedures requirements for demonstration of capacity should be able to be adopted for DR.
 - Most agree that the Information required by MISO for DR registration purposes should be sufficient to ensure capacity exists.
 - Most agree that a forward ZRC contract for aggregated DR should be acceptable if being submitted on behalf of a utility, muni or coop.
- Areas of Disagreement
 - Whether the ARC, LSE or utility should be the entity to supply the information to ensure that the capacity exists for the commitment period.

DR Aggregation Limited to AES Customers?

In the February 13th stakeholder meeting, it was suggested that the MPSC should not limit DR aggregation to only AES customers.

Pros

- Aggregating DR can help reliably meet Michigan's capacity needs in a cost-effective manner.
- RTO needs DR for a variety of reasons, for example the January 2019 cold snap.
- DR barrier hinders efforts to meet energy conservation/ environmental goals.

Cons

- Aggregated DR is currently resulting in PLC and demonstration problems.
- Allowing ARC's to access utility customers redistributes the benefits of DR
- Limits MPSC's visibility into the states capacity resources.
- As more DG comes online, the utility is best positioned to manage DR to ensure resource adequacy and D system benefits.

Suggested Recommendations?

- Through a formal proceeding, the MPSC should explore allowing large industrial customers to bid into RTO markets through a utility tariff mechanism.
- Although preferable to allow direct participation, Michigan could adopt the Indiana model that allows bundled DR to access RTO markets.
- Consider continuing the current restriction on CSP's, including aggregators

Exploring other State Models

Indiana Utility Regulatory Commission's (IRUC) Initial Order

- Established in 2010 by IURC.
- Goal: Increase and improve DSM programs and make available to all customer classes and market segments
- Encouraging participation in RTO DR programs is in the public interest.
- DR is engrained in utilities' cost of service in short and long term energy/capacity planning
- Direct customer participation introduces a significant degree of uncertainty into the evaluation of capacity needs and cost effectiveness in IRP filings
- Participation in RTO demand response should be done through the retail customer's LSE as should aggregation.

IURC's Initial Order

- Requiring participation through the LSE permits DR to be incorporated into the IRP process while retaining Commission oversight of DR offerings and participation.
- CSPs may provide opportunities for small/medium sized C&I participation that may be underserved by utilities.
 - Encourage utilities to explore opportunities with CSPs. Agreements should be presented to IURC for approval.
- While direct customer participation works well in competitive retail/wholesale markets, IURC lacks the evidence to determine whether this works in traditionally regulated jurisdiction.

NIPSCO's "RTO DR" Tariffs

Summary of Rider

- Rider available to all eligible load.
- ARCs can enter into an agreement with NIPSCO with the utility acting as the MP for the ARC.
- Other communications, metering, testing requirements.

NIPSCO Annual Report

- 0 customers on EDR tariff (emergency only-energy only DR)
- 2 customers on DRR Type 1 Tariff (energy only)
 - 50 MW each. Likely working directly with utility, not ARC.
- There is more participation in I&M's Emergency Rider. (48 entities, 132 customers, 55 MW)
 - The nature of MISO vs. PJM markets?
 - I&M is an FRR entity?

Resources for Indiana Model

- NIPSCO tariffs: Rider 781 and 782 ([link](#))
- See all Indiana utility Annual Reports under IURC Cause No. 43566 for participation and MW info. ([link](#))
- Initial IURC Order making the findings outlined above and requiring the establishment of these tariffs ([link](#))
 - **Do you have any immediate feedback on the pros and cons of this model?**
 - **Is this model worth exploring?**

Pennsylvania EE&C

- Pennsylvania Act 129 of 2008 created an Energy Efficiency and Conservation Program (EE&C). ([link](#))
- Requires EDC's with at least 100,000 customers to adopt this plan which requires a reduction in electric consumption.
- Peak Demand was mandated to be reduced using an incremental approach each year through 2013.
- Every 5 years, the Pennsylvania PUC is to assess the cost-effectiveness of the EE&C Program and set any additional incremental reductions necessary.
- This Act requires the PUC to establish procedures that require EDC's to competitively bid all contracts with a PA registered conservation service providers (CSP's). In this case, a CSP would be an entity that provides consultation, design, administration and management services to the EDC, not entities that provide services to customers or the public (equipment installers or suppliers).
 - **Do you have any immediate feedback on the pros and cons of this model?**
 - **Is this model worth exploring?**

MISO vs. PJM Registration Process

MISO

- Review requires accreditation documentation and supporting reduction capability, name and contact info for RERRA and LSE and customer specific info.
- Sends notification to LSE, LBA and RERRA
- LSE, LBA and RERRA are responsible for verifying within 10 days that the registration is allowed, that the customer exists, the account number is correct, the MW's registered is accounted for and true for the customer and that the Load Zone CP Node is appropriate.
- If approved by these entities, MISO will approve and calculate capacity credit.
- If rejected, the registration moves back to the ARC for revisions or withdrawals.

PJM

- Reviews CSP registrations in depth when disputed by EDC/LSE.
- Detailed and granular info required to register
- Aggregated economic DR must be served by same EDC and LSE with same pricing point.
- Aggregated emergency DR must be served by same EDC and in same TO zone.
- CSP, LSE or EDC must provide interval metering equipment and load data.
- Allows submetering, but with even more stringent requirements and granular data.
- Manual 11 ([link](#))

Feedback on MISO vs. PJM

- Does the PJM process outlined above have any pros or cons as compared to the current MISO process?
- While this discussion is focused on a Michigan specific process to track and verify aggregated DR, would you support supplementing the MISO process with some of the aspects of PJM's registration process?
 - Would you support adopting some of these PJM procedures into a Michigan specific process?
- Would you like to further discuss the IN/PA models or explore aspects of the PJM process?

Potential Elements for a Staff Proposal

Elements of a Staff Proposal

For each LSE's capacity obligation

and

For the resources submitted within capacity demonstrations:

- Be consistent with resource adequacy provisions outlined in PA 341 Section 6w.
- Not conflict with any resource adequacy provisions contained in MISO or PJM tariffs or business practices.

Michigan Capacity Obligations

For the purposes of the capacity demonstrations for the Michigan State Reliability Mechanism (SRM), MCL 460.6w(8), the total capacity obligation to meet for a given LSE shall be the LSEs' **PRMR**.

PLC determinations will ultimately drive the total amount of capacity obligation that an Alternative Electric Supplier (AES) will be required to meet in its annual demonstration before the Commission.

Potential PLC Adjustments

MISO
FERC Electric Tariff
MODULES

69A.1.2.1
Preferred and Daily Peak Load Default Methods
31.0.0

Preferred and Daily Peak Load Default Methods

- a. The method submitted by an EDC must describe in detail the procedures and data used to determine the assignment of the EDC's forecast Coincident Peak Demand to its retail customers, including those served by LSEs providing service within the EDC's area.
- b. The preferred default method should assign a peak load contribution ("PLC") value to each retail customer, based on the PLC values derived from each retail customer's Demand at the time of the Transmission Provider's peak Demand during the Summer prior to the Planning Year for which such values will be used (*i.e.*, the Prior Summer Retail Customer Coincident Peak ("PSRCCP")). Retail customer peak demands should be increased to reflect any load reductions achieved and for which capacity credits are earned, either through retail programs or participation in wholesale markets (*e.g.* LMRs). In the aggregate, the PLCs determined by the

Potential PLC Adjustments

- MISO does not “adjust” PLCs that are provided by the electric distribution company.
“An LSE may challenge the EDC Demand forecast under the dispute resolution procedures pursuant to Section 12 or it may refer the dispute to the Commission for resolution.” (MISO Tariff 69A.1.2)
- MISO dispatches the ARC (the owner of the DR resource) and the ARC dispatches the individual customers. The EDC is not explicitly in that loop and may not have data necessary to adjust PLCs.
- Are MISO BPM or tariff revisions warranted to ensure that retail peak load contributions are increased to reflect any relevant load reductions?

The PLC Issue: Resource Adequacy

- If a customer participates with an ARC and its load is reduced at the time of the MISO peak, a supply side DR resource exists for that load.
- If that customer's PLC is reduced the following year because the customer's load at the time of the MISO peak was lower, and if not adjusted upwards to reflect the amount of previously dispatched DR, a duplicate demand side DR resource exists for that same load.
 - The same DR resource would be double counted on both the supply side and the demand side of the resource adequacy equation creating a potential reliability problem.

The PLC Issue: Resource Adequacy

- Is this a problem that needs to be fixed?
 - If the EDC that submits the demand forecast also receives information about load reductions at the individual customer level that were dispatched by ARCs at the time of the MISO peak, then maybe not. Staff is not convinced that this is the case.
- Are MISO BPM or tariff revisions warranted to ensure that retail peak load contributions are not double counting the same resource on both the supply side and demand side of the resource adequacy equation?
 - PLC determined to be the highest load for that particular customer for MISO's top twelve peak hours of the previous year so that PLC adjustments for load reductions may no longer be necessary?

The PLC Issue: Resource Adequacy

- Possible Michigan fixes that don't involve MISO:
 - Voluntary registration process created for ARCs in Michigan
 - ARCs to provide information to Staff to maintain registration
 - Provide DR that was dispatched during the previous MISO peak including individual customer MW reduction amounts
 - Provide information regarding the ARC's DR in Michigan
 - » Amount of Michigan DR registered for prompt planning year in each EDC's territory.
 - » Amount of Michigan DR load contracted for each of the next 4 planning years by EDC territory.
 - » Allow Staff to confidentially view a sampling of customer contracts
 - Request legislation for a more formal process than the one outlined above?
 - Create a Michigan 4-year forward capacity tracking tool?

Forward ZRC Contracts

- Forward ZRC contracts do not include the specific information in the Commission order in U-18197 for aggregated DR:
 - AESs can use DR capacity resources from another AES's customers to meet their forward capacity demonstration obligations provided that:
 - Affidavits supporting the resource are provided by both AESs involved;
 - The demonstrating AES provides evidence that the customer's distribution utility was notified of the arrangement, and;
 - Customer contracts are made available for the Staff to review.

Forward ZRC Contracts

- Limited or no knowledge regarding the actual source of the ZRCs
- Difficult for Staff to audit on a forward basis; however audits can be conducted for the prompt year
- Stakeholder feedback suggests that documentation requirements should be the same for supply-side and demand-side resources

* Without knowledge of the source of the ZRCs Staff may be unable to determine what level of aggregated DR resources exist within the Zone for use in the development of Zonal Resource Adequacy projections for each planning year.

Zonal Resource Adequacy Projections

- Aggregated DR could be accounted for by instituting the previously mentioned voluntary registration process for ARCs in Michigan.
- It could also be accounted for in a Michigan 4-year forward capacity tracking tool.

Possible Elements of a Staff Proposal

1. Whether the ability to aggregate DR for customers of Michigan AESs for bidding into RTO markets should be limited to AESs, or be extended to non-AES third parties such as CSPs;
 - *Allow CSPs to be consistent with MISO and PJM*
2. How to adequately track DR resources for capacity demonstration purposes under MCL 460.6w;
 - *Tracking DR resources that are submitted as DR resources with associated documentation does not appear to be a problem.*
 - *ZRC contracts should continue to be accepted, however, they pose challenges to developing zonal resource adequacy projections.*

Possible Elements of a Staff Proposal

3. The treatment of aggregated DR outside the capacity demonstration framework that may affect capacity requirement allocation to LSEs; and
 - *Pursue a MISO Tariff or BPM change to ensure that the same DR resource is not counted on both the supply-side and demand-side of the equation; and/or*
 - *Develop a voluntary registration process with reporting requirements for ARCs in Michigan; and/or pursue a Michigan 4-year forward Capacity Tracking Tool*
4. What are appropriate reporting requirements related to DR and aggregation and whether the capacity demonstration requirements need revision.
 - *TBD consistent with what is decided above*

Questions, Discussion and Next Steps

Questions & Discussion

- Does a third party aggregator submit an aggregate amount of DR to MISO vs. an individual customer DR?
 - MISO tariff specifies that ARCs provide information for each individual customer account that it is registering.
- Does MISO dispatch an aggregate amount of DR or individual customer DR?
 - At our last meeting, MISO said that they dispatch an amount of DR to the ARC and the ARC dispatches it to individual customers.

DR Aggregation Limited to AES Customers?

In the February 13th stakeholder meeting, it was suggested that the MPSC should not limit DR aggregation to only AES customers.

Pros

- Aggregating DR can help reliably meet Michigan's capacity needs in a cost-effective manner.
- RTO needs DR for a variety of reasons, for example the January 2019 cold snap.
- DR barrier hinders efforts to meet energy conservation/ environmental goals.

Cons

- Aggregated DR is currently resulting in PLC and demonstration problems.
- Allowing ARC's to access utility customers redistributes the benefits of DR
- Limits MPSC's visibility into the states capacity resources.
- As more DG comes online, the utility is best positioned to manage DR to ensure resource adequacy and D system benefits.

A Focused Conversation

What would need to happen to make stakeholders comfortable with lifting the ban on DR aggregation for all customers in Michigan?

Next Steps

- Provide any written feedback to Staff for use in the development of a Staff proposal within four weeks (April 10th) to Heather Cantin and Erik Hanser.
Cantinh@michigan.gov and Hansere@michigan.gov
- Staff to circulate a draft Staff proposal in advance of the final DR aggregation stakeholder meeting. (Target date for circulation is April 19th).
- Please provide any additional topics you would like to discuss at the final stakeholder meeting to Heather and Erik at the addresses above.
- Final Stakeholder meeting scheduled for **Friday, May 3rd at 1:00 pm.**

Questions?

If you wish to subscribe to the MPSC DR Aggregation listserv, you may do so by accessing our [DR Aggregation Workgroup website](#).

Appendix

MISO Capacity Obligations

Planning Reserve Margin Requirement (PRMR): The amount of ZRCs required of each LSE with Coincident Peak Demand in an LRZ to meet the LSE's Resource Adequacy Requirements.

(MISO Tariff definition)

Peak Load Contribution(PLC): The preferred default method should assign a peak load contribution ("PLC") value to each retail customer, based on the PLC values derived from each retail customer's Demand at the time of the Transmission Provider's peak Demand during the Summer prior to the Planning Year for which such values will be used (*i.e.*, the Prior Summer Retail Customer Coincident Peak ("PSRCCP")). Retail customer peak demands should be increased to reflect any load reductions achieved and for which capacity credits are earned, either through retail programs or participation in wholesale markets (*e.g.* LMRs).

(MISO Tariff 69A.1.2.1)

Resource Demonstrations

Existing demand response or energy efficiency resources (that have not been netted against load)

The minimum acceptable support for existing demand response resources or energy efficiency resources that have not already been netted against load include:

- 1) An affidavit from an officer of the company outlining the resource(s), including a commitment to maintain at least that same level of resources four years forward,
- 2) A copy of the existing ZRC qualification of the resource(s) from the MISO Module E Capacity Tracking Tool, and;
- 3) If there are retail tariffs or customer contracts associated with the resources, copies should be provided.

Resource Demonstrations

New demand response or energy efficiency resources (that have not been netted against load)

The minimum acceptable support for new demand response resources or energy efficiency resources that have not already been netted against load included in a capacity demonstration include:

- 1) An affidavit from an officer of the company outlining the plans for the resource(s), including a commitment to achieve and/or maintain at least that same level of resources four years forward,
- 2) Evidence that the customer's distribution utility has been notified of specific customers participating in the resource,
- 3) Specific plans to have the resource(s) qualified by the independent system operator, and;
- 4) If there are retail tariffs or customer contracts associated with the resources, copies should be provided.

For new demand response or energy efficiency resources submitted as part of a capacity demonstration, the Commission finds that all of the above data be updated and submitted on an annual basis with each subsequent capacity demonstration until the resource(s) are in service. Final qualification / approval from the independent system operator should be submitted in a subsequent demonstration.

Resource Demonstrations

Forward ZRC contracts

The minimum acceptable support for forward ZRC contracts include an affidavit from an officer of the company including a copy of the contract that specifies the zonal location of the ZRCs. The affidavit should include a commitment to maintain the contracted amount four years forward regardless of any early-out clauses in the contract. A forward ZRC contract that does not specify the zonal location of the ZRCs will be deemed insufficient towards meeting any portion of a locational requirement, unless the LSE provides other alternative support for the location of the ZRCs.

- ZRC Contracts typically do not identify specific resources and do not identify whether they are coming from a supply-side or demand-side resource. They are a promise to deliver ZRCs at a future time for a price.