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Making the Most of Michigan's Energy Future

Agenda Items		
9:00 am	Welcome and Introductions	Katie Smith, MPSC staff
9:05 am	Overview of Staff Report	Katie Smith, MPSC staff
9:25 am	Overview of U-20348	Erik Hanser, MPSC Staff
9:45 am	MPSC Processes: Reviewing ARC Registrations and Capacity Demonstrations	Jesse Harlow, MPSC Staff
10:15 am	MISO ARC tariff revisions and addressing the Peak Load Contribution issue	MISO Erik Hanser, MPSC Staff
10:35 am	Break	
10:45 am	Utility-Aggregator partnerships	AEMA
11:05 am	Status of Utility DR partnerships	CE, DTE, I&M
11:35 am	Countrywide Review of Utility-Aggregator Partnerships	Tom Stanton, NRRI
11:55 am	Next Steps	MPSC Staff
12:00 pm	Adjourn	

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Making the Most of Michigan's Energy Future

Staff Report Outline

Katie Smith

MPSC

Michigan Public Service Commission

Staff Report Outline

- Executive Summary
  - High level summary of report

- Introduction
  - MI Power Grid
  - Order U-20628

- MI Power Grid Demand Response Workgroup
  - Development of the Stakeholder group
  - Four Stakeholder meetings
    - Meeting 1 – Introduction
    - Meeting 2 - Operations & Communications
    - Meeting 3 – Wholesale/Retail Alignment and Testing
    - Meeting 4 – Staff Reporting & DR Aggregation
    - Participation – Over 30 partners

Staff Report Outline Continued

- SEA Report

- Polar Vortex 2019
  - Staff Findings
  - MISO Findings
  - Utility Findings
  - Customer Findings
  - Any improvements made right away, Customer Changes, summary of issues experienced during event

Staff Report Outline Continued

- Operations and Communications
  - Communication Procedures
    - Different entity perspectives
  - Barriers
  - Alignment between utilities

- Utility DR Tariffs
  - Staff Review of Tariffs – Appendix
  - Consistency and clarity relative to LMR deployment
  - Improvements made thus far
  - How Tariffs can be updated

Staff Report Outline Continued

- Wholesale and Retail Alignment
  - Registration options
  - Performance requirements
  - Rule changes

- Testing
  - Rule changes due to PV 2019
  - Real power test vs. Simulations
  - Other testing options
  - Feedback received on testing

Staff Report Outline Continued

- Emergency DR vs Economic DR
  - Capacity Demonstration value
  - Seasonal DR vs year-round
  - Potential new or underutilized programs/pilots

- DR Aggregation
  - Any new findings
  - Partnerships

Staff Report Outline Continued

- Recommendations
  - Improvements to DR tariffs, potential revisions to utility tariffs to improve communication with LMR's
  - Alignment of retail DR tariff offerings with wholesale markets and emergency operations
  - Maximizing the capacity value of utility DR resources in the wholesale markets
  - Ways to conduct testing of the communication/response system
  - Ways to improve future LMR participation & deployment
- Conclusion

Appendices to the Staff Report

- DR Tariff Comparison Document
- Solutions document
- Feedback request information
- Comments
- Presentations

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Overview of U-20348

Erik Hanser

Today's DR Aggregation Update

- Why are we talking about this today?
  - "Finally, the collaborative group will discuss other issues related to DR as appropriate to achieve the Commission's overarching goals of reliability and resilience." – U-20628
- DR aggregation is an evolving issue
  - Good opportunity to review outcomes of 2019 stakeholder group and recent developments
  - Provide clarity on new MPSC processes
  - Informational updates from Staff, MISO and utilities

U-20348- Kickoff

- MPSC Order in 2018 ordered Staff to investigate several issues
  - Whether the ability to bid aggregate DR into RTO markets should be limited to Alternative Electric Suppliers, or whether 3rd party aggregators should be able to directly bid as well
  - How to track aggregated DR in capacity demonstrations
  - How to treat aggregated DR outside capacity demonstrations
    - Effects on Load Serving Entity capacity requirements
  - Reporting requirements for DR and aggregation
    - Do capacity demonstration requirements need to be revised?
  - Identify barriers or other issues surround DR aggregation

U-20348-Workgroup Activity

- The issues above were explored in the 2019 DR aggregation group
  - Series of stakeholder meetings/technical conferences
    - presentations by MPSC staff, MISO, PJM, Voltus, AEMA, Consumers
  - Discussions on aggregated DR tracking, reporting, RTO registration/interaction, and merits/challenges of lifting the ban on aggregation for bundled customers
- Three stakeholder meetings culminating in a Report filed May 2019
  - 6 recommendations in report

U-20348- Order summary (Aug 8, 2019)

1) Allowed 3rd part aggregators to bid aggregated DR for choice load into RTO markets
   a. Can bid directly, doesn't have to be via Load Serving Entity
2) Forward Zonal Resource Credits accepted in capacity demonstrations
   a. Capacity tracking tool not needed
3) Directed Staff and utilities to work with MISO on Peak Load Contribution issue
   a. Information flow issue when aggregated DR is dispatched on MISO's peak
4) Updated capacity demonstration requirements
   a. Required LSE's to provide prompt year ZRC transfer documentation

U-20348- Order summary (cont'd)

5) Maintained the ban on DR aggregation for bundled load
   a. Encouraged utilities to develop an ARC-utility collaboration model
      i. Models can be proposed in IRP case, rate case, or DR reconciliation case
   b. ARC-utility collaboration could provide model for scaling up aggregated DR for all customers
      a. Recognize the uncertain status of state opt-out authority in light of recent FERC decisions

6) Aggregated EERs, aggregated electric storage, and aggregated DERs are not accepted as capacity resources in capacity demonstrations
   a. Unless qualified by the RTO
   b. Recognized that these products are under development by the RTOs
   c. Directed staff/utilities to work with RTOs on future EER/storage/DER aggregation issues

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MPSC Processes: Accounting for 3rd party aggregated DR

Jesse Harlow

MPSC

Michigan Public Service Commission

Communication

- As discussed in U-20348 and each Capacity Demonstration report since, there needs to be robust communication to ensure reliabilty.
- This needs to happen between the Load Serving Entity (LSE), Alternative Electric Suppler (AES), Aggegator of Retail Customers (ARC), and the Relevent Eletric Retail Regulatory Authority (RERRA) in order to ensure that the Peak Load Contribution is properly accounted for.
  - Without this communication and accountability, future forcasts will be inaccurate potentially leading to reliability issues with increased interest in aggregated DR.

Relatively New and Still Small

- In both the 2019 and 2020 Capacity Demonstration Reports there were 71.4 MWs of Aggregated Demand Response so far.
  - Currently all in DTE's and Consumers' Service Territory
  - Soon to increase with interest in I&M's Service Territory (PJM's ISO)
- Increased participation in aggregated DR increases the need for communication between the ARC, LSE, AES and RERRA

Current Process

- As the RERRA, MISO requests that the Commission approve Aggregated DR requests from the ARC
- The Commission Staff relies on the LSE to confirm load and the ability of each customer to meet the MISO requirements
- Staff believes that MISO could facilitate communication that would mitigate issues related to PLC in a manner that would not violate

- Staff recommends that the Commission direct Staff and the Michigan regulated utilities to work with MISO on developing proposed changes to the MISO process, wherein MISO would provide the amount of dispatched aggregated DR at the time of the MISO peak to be utilized by the utilities in the calculation of peak load contributions (PLCs). August 8, 2019 U-20348 Order

ARC Participation in MISO Markets

MI Power Grid:

Demand Response

28 April 2020

MISO tariff language regarding ARCs needs to be clarified

- ARC participation in MISO markets has increased recently and it has become clear that some of the MISO tariff language and business processes around ARC participation could use modification and/or simplification.
- The goal of such proposed changes is to improve registration and other MISO processes with respect to ARC participation to facilitate non-discriminatory treatment and alleviate any related potential artificial barriers to participation.

NOTE: certain changes to MISO's Tariff and BPMs at this time cannot be made due to constraints inherent in its systems/tools.

- Further changes will be considered as part of future stakeholder processes

Tariff Changes (p. 1 of 3)

Module C, sections 38.6 – 38.7.2 (general market participation requirements), organized into the following sections:

- 38.6 (ARCs) – for DRRs, LMRs, EDRs
  - Registration
  - Market Activities
  - Metering
  - Settlements
- 38.7.2
  - Demand Response Resource procedures for MPs that are not ARCs

Tariff Changes (p. 2 of 3)

38.6 (ARCs) – for DRRs, LMRs, EDRs Registration

- Information Requirements
- Addressing potential double counting
- Approvals & Notifications,

  Information sharing protocols
- RERRAs, LBAs & LSEs

Tariff Changes (p. 3 of 3)

- Module E-1:
  - Measurement & Verification linked to Attachment TT
  - Information sharing to RERRAs for PLC calculations
- Schedule 30:
  - Measurement & Verification linked to Attachment TT
  - General clarifying language
  - Re-organization
- Attachment TT:
  - Application for DRRs, LMRs and EDRs
  - General clarifying language

Stakeholder input addressed by proposed changes or current Tariff

Stakeholder comments	MISO response
Information sharing for RA purposes (PLCs), to EDC, RERRA and ARES	Information already provided to the LBA and ARES/LSE Will be provided to EDC – see Module E-1 language

In Module E-1: *proposed language*

The Transmission Provider will provide to the EDC the amount of measured (or estimated if final settlement data is forthcoming) load reduction that occurred as a result of an ARC deploying a DRR, LMR or EDR following a Setpoint Instruction, Scheduling Instruction or EDR Dispatch Instruction during the Transmission Provider's Coincident Peak Demand.

Next steps

- MSC provide any additional comments on ARC processes requiring clarification in MISO markets
- MISO will further develop draft clarifying tariff language
  - BPM language will follow
- Discussions, if necessary, will continue at the MSC in May
- Filing expected in late May

Appendix

Acronyms

- ARC aggregator of retail customers
- ARES alternative retail electric supplier
- BPM business practices manuals
- CBL customer baseline
- DRR demand response resource
- DRT demand response tool
- EDC electric distribution company
- EDR emergency demand response
- ESR energy storage resource
- LBA local balancing authority
- LMR load modifying resource
- LSE load serving entity
- M&V measurement & verification
- MP market participant
- PLC peak load contribution
- RA resource adequacy
- RERRA relevant electric retail regulatory authority

Background

- FERC Order 719, issued on 17 October 2008, required MISO to amend its market rules to allow ARCs (aggregators of retail customers) to offer demand resources into MISO markets as long as certain conditions were met.
- On 19 July 2012 (and subsequent orders on compliance), FERC accepted MISO's proposed market rules for ARC participation.
- Relevant sections of the Tariff pertaining to ARC participation in various MISO markets include,
  - Module C, sections 38.6 – 38.7.2 (general market participation requirements)
  - Module E-1 (resource adequacy participation requirements)
  - Schedule 30 (participation requirements under emergency conditions)
  - Attachment TT (measurement & verification for demand resource performance)

Stakeholder input addressed by proposed changes or current Tariff (p. 1 of 2)

Stakeholder comments	MISO response
Align registration with ARC certification of RERRA explicit approval	Agree, default for no response from the RERRA for smaller LSEs is now denial of registration
Share more information from the ARC registration with the LSE and LBA	Addressed in latest draft of Tariff revisions, will include M&V approach, demand response type and other info
Increase/decrease approval timeline from 10 business days, and address concurrent review process, provide visible approval status	Currently out of scope for this effort
Extend testing requirements to DRRs and EDRs	If these assets are also LMRs, then testing requirements apply. ARCs with DRR assets face same requirements as other DRRs. EDRs have significant non-performance charges.
Improve the process for settlement disputes	Linked the settlement process to existing language in Attachment TT with potential for MISO audit.

Stakeholder input addressed by proposed changes or current Tariff (p. 2 of 2)

Stakeholder comments	MISO response
Request one-line diagrams at registration linking load behind the asset to the BES	Currently out of scope for this effort
Ensure appropriate metering equipment is available for the applicable demand response instrument	Added some additional language in draft pointing to existing Tariff requirements with respect to metering standards.
MISO should conduct more rigorous audits during the registration process and periodically during market participation	If warranted, will be considered at a later date
MISO should examine the contractual arrangements between the ARC and the end use customers	Not one of MISO's core functions.

Stakeholder input addressed by proposed changes or current Tariff (p. 1 of 3)

Stakeholder comments	MISO response
Information sharing for RA purposes (PLCs), to EDC, RERRA and ARES	Information already provided to the LBA and ARES/LSE Will be provided to EDC – see Module E-1 language
Align registration with ARC certification of RERRA explicit/implicit approval	Agree, completed
Share more/less information from the ARC registration with the LSE and LBA	Addressed in latest draft of Tariff/BPM revisions
Information sharing with EDCs	What information (outside of PLCs) and why should this information be shared with EDCs? • Registration? • Market Activities? • Settlements?
Unclear language regarding notification of changes to an ARC's resource	Addressed in latest draft of Tariff/BPM revisions

Stakeholder input addressed by proposed changes or current Tariff (p. 2 of 3)

Stakeholder comments	MISO response
Require registration approval at the end-use customer level	Currently out of scope for this effort
Aggregation at LBA level, across LSEs	Currently out of scope for this effort
Increase/decrease approval timeline from 10 business days, and address concurrent review process, provide visible approval status	Currently out of scope for this effort
Clarify how LSEs evaluate proposed ARC market settlements	Have existing Tariff language; additional detail will be addressed in next draft of BPM revisions
Extend testing requirements to DRRs and EDRs	If these assets are also LMRs, then testing requirements apply. ARCs with DRR assets face same requirements as other DRRs. EDRs have significant non-performance charges.
Latest Tariff revisions diminish LSE & LBA role	Do not agree. Latest revisions may have eliminated redundancy in language

Stakeholder input addressed by proposed changes or current Tariff (p. 3 of 3)

Stakeholder comments	MISO response
Ensure ARC registrations do not negatively affect the grid, do not double count end-use customers, and do not harm other non-participating customers	Agree, reliably operating the grid is the top priority, Tariff and business practices address these potential issues
For ARCs with demand response instruments (DRRs, LMRs, or EDRs) that have aggregated end-use customers with different types of load reduction capability (e.g., btmg, controllable load), separate and appropriate M&V approaches should apply.	Agree, this has been addressed in the Tariff/BPM language
Share ARC information on demand response type and M&V approach with LSEs and LBA	Agree, currently do this
Insert specific language in 38.6 around LMR participation in MISO's capacity construct.	Addressed in existing Module E-1 language and BPM for Resource Adequacy

Stakeholder input addressed by proposed changes or current Tariff

Stakeholder comments	MISO response
General support for initiative	Thank you
Identify process when the LBA or LSE cannot confirm ARC registration data	Addressed in posted Tariff language
Section 38.6 should include all demand response instruments	Addressed in posted Tariff language
Level playing field across different MPs, from ARCs to LSEs – e.g., same reliability requirements	Current Tariff satisfies this comment
ARC participation consistent with RERRA regulations	Current Tariff satisfies this comment
If alternative baselines in Attachment TT are chosen, proof should be provided of their improved accuracy	Current Tariff satisfies this comment

Stakeholder requests addressed by Tariff or otherwise satisfied by current practice

Stakeholder comments	MISO response
Information sharing for RA purposes (PLCs), to EDC, RERRA and ARES	Information already provided to the LBA and ARES/LSE and made available upon request to RERRA
MISO approve ARC's proposed CBL prior to registration, after receiving historic data	MISO approves CBL method as part of registration
ARC registrations should identify load reduction method, and require interval meters	Registrations do require identification of load reduction method, interval meter requirements vary by market
Clarify if ARCs can provide ESRs	ARCs can provide storage devices as demand response assets
An ARC's LMR asset should have an availability exemption and the ARC should be able to provide replacement capacity at any time	All LMRs treated the same with respect to availability requirements; replacement capacity subject to Module E-1 requirements

Stakeholder input to be addressed in future Tariff revisions

Stakeholder comments	MISO response
All M&V techniques should be in Attachment TT	Will be addressed in future Tariff revisions
Address in the BPMs how data is submitted, how all the various CBLs are calculated with settlement examples	Will be addressed in future BPM revisions
Clarify how LSEs evaluate proposed ARC market settlements	Will be addressed in future Tariff revisions

Stakeholder advice currently out of scope (p. 1 of 2)

Stakeholder comments	MISO response
Information sharing of dispatch information, to RERRA	Currently out of scope for this effort
Improve registration processes across market instruments (LMRs, EDRs DRRs): single process	Currently out of scope for this effort
Asking an ARC to provide information like contact information is unreasonable	Currently out of scope for this effort
Increase/decrease approval timeline from 10 business days, and address concurrent review process, provide visible approval status	Currently out of scope for this effort
ARC should notify MISO of any significant changes to end-use customer operations that change CBL	Currently out of scope for this effort
Require registration approval at the end-use customer level	Currently out of scope for this effort

Stakeholder advice currently out of scope (p. 2 of 2)

Stakeholder comments	MISO response
Allow end-use customers to participate in different MISO markets through different MPs	Currently out of scope for this effort
Share more/less information from the ARC registration with the LSE and LBA	Currently out of scope for this effort
Upgrade the Demand Response Tool. While this is in process, use alternate means to address its functions	Currently out of scope for this effort; DRT upgrade in process
ARC requirements consistent with any changes coming from the RAN effort	Currently out of scope for this effort
Address increasing administrative costs of LSEs regarding ARCs	Currently out of scope for this effort
Bulk submission at registration	Currently out of scope for this effort
Aggregation at LBA level, across LSEs	Currently out of scope for this effort

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MPSC Feedback to MISO: ARC tariff changes

MPSC

Michigan Public Service Commission

MPSC Feedback to MISO Markets Subcommittee

- Feedback
  - December 19, 2019 here
  - January 22, 2020 here
  - February 20, 2020 here
- Summary
  - Focused on information and data sharing when aggregated DR is dispatched on MISO's peak (Peak Load Contribution)
  - This information must flow to the Electric Distribution Company, in order to perform its obligations under MISO's tariff
- MISO's changes to Module E-1 should address this issue

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Break

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Benefits of Leveraging Utility-Aggregator Partnership Models

April 28, 2020

Michigan PSC Staff Stakeholder Meeting

Executive summary

- The Jan 2019 Polar Vortex highlighted gaps & opportunities for improvement in utilities' management of DR resources
- As DR grows in MI and comprises a growing percentage of the resource mix, need to ensure that programs will perform when dispatched
- We recommend that utilities incorporate 3 key principles and capabilities into their DR programs to ensure reliability and customer success
- Partnering with 3rd-party provider(s) to address gaps can boost reliability while being efficient with ratepayer dollars

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Key capabilities for reliable DR programs

All reliability-based DR programs should have:

1. Sufficient metering to provide near-real time visibility into >75% of customers' load
2. Robust customer readiness procedures
3. Centralized portal that allows utilities to analyze, monitor & coach customer performance during events

…to ensure that utilities and customers are never "flying blind" during emergencies

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#1: Near-real time visibility into ~75% of customer load

- Metering is essential to provide visibility into customer and portfolio performance during events
- May not be necessary/cost-effective for smaller (e.g., <250 kW) customers but should comprise at least ~75% of customer load
- Should use existing infrastructure where possible (e.g., smart meters, installing pulse loggers on existing interval meters)
- Helps inform potential corrective actions to take during emergency events; without near-real time data, would not know if portfolio under-performed until it's too late

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#2: Robust customer readiness procedures

- Program performance starts well before events even begin; customers are typically focused on running their business, not responding to DR events

- Routine touch points with customers throughout the year are essential to build their awareness and knowledge

- Need procedures to:
  - New customer qualification test and on-going annual testing
  - Ensure multiple, redundant, current contacts at all times
  - Turn around dispatch notifications in <5 minutes
  - Provide customers with early/advance notice of potential emergency events

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#3: Centralized portal that enables real-time performance monitoring & coaching

- Must be able to analyze real-time performance of resources during events relative to individual baselines
  - Helps identify under-performing customers who may need assistance executing their Curtailment Plan
- Coaching customers significantly increases performance during events
- Rapid understanding of results helps identify opportunities for improvement
- Essential for maximizing reliability and cost-effectiveness of programs and for reducing penalty risk to customers

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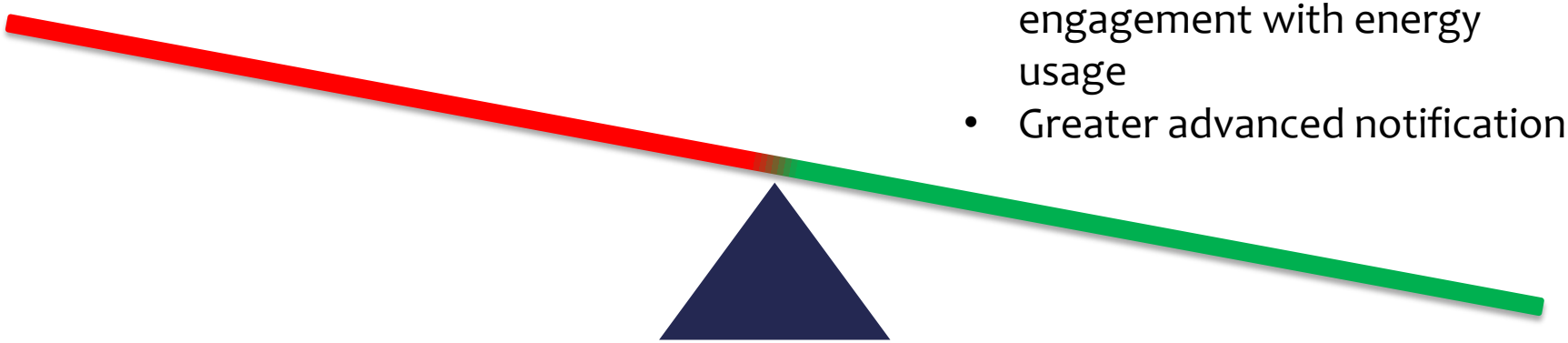
Cost-benefit tradeoffs of recommended capabilities

Costs

- Platform development ($$$) or contracted services ($)
- Limited overhead to support customer readiness activities
- Modest incremental metering costs for real-time visibility

Benefits

- Improved program reliability
- Greater system stability
- Greater cost-effectiveness
- Higher customer satisfaction & engagement with energy usage
- Greater advanced notification



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Roadblocks to Utility-Aggregator Partnerships

- Helpful Commission support for utility-aggregator partnership in U-20348
- Additional direction/clarity from Commission would be valuable; important to align spending with commission priorities
- Recommend that Commission direct utilities to incorporate capabilities into their DR programs; leveraging third-party providers can help utilities be efficient with ratepayer dollars

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Questions?

To learn more about Advanced Energy Management Alliance, visit our website.

www.aem-alliance.org

APPENDIX

Benefits of 3rd Party DR Providers

- Significant private capital investments in advanced technology that provides real-time resource visibility; supplements utility capabilities while being efficient with ratepayer dollars.

- Expertise in discovering and maximizing customer flexibility; harness potential from a diverse pool of C&I customers, not just the largest, to lower costs for all customers; provide market interface.

- Expertise in facilitating customer DR participation and enablement; curtailment plan development, technology for automation, coaching,

- Portfolio aggregation enables reliable performance while shielding individual customers from out-of-pocket penalties that serve as barrier to entry; can also play "tetris" with limited duration customers who may not be able to participate individually.

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Update on Utility-DR partnerships

Follow-up on MPSC direction in U-20348

Consumers, DTE, I&M

MPSC

Michigan Public Service Commission

Prompts

- Status of partnerships with 3rd party aggregators
  - Do you currently work with ARCs/CSPs? (Aggregator of Retail Customers/Curtailment Service Providers)
    - Any ARC-utility collaboration models as specified in U-20348?
- What value do ARC/CSP partnerships add?
- Exploring any partnership opportunities in the future?
- Any roadblocks to expanding partnerships in MI?

- Status of partnerships with Utility Service Providers (USPs)
  - What is a Utility Service Provider?
  - How does this differ from ARC/CSP-utility partnerships?
    - Provide enabling technology, DR platforms, etc.?
- What value do USP partnerships add?
- Exploring any partnership opportunities in the future?
- Any roadblocks to expanding partnerships in MI?

MI Power Grid: Demand Response Workgroup Meeting

State public policy pathways toward liberating demand response resources

Tom Stanton, Principal Researcher, Energy and Environment
National Regulatory Research Institute

April 28, 2020

What is NRRI?

- The National Regulatory Research Institute (NRRI) was founded in 1976 by the National Association of Regulatory Utility Commissioners (NARUC). NRRI serves as a research arm to NARUC and its members, the utility regulatory commissions of the 50 US states and DC.
  - Mr. Stanton is assigned to support primarily the NARUC Committee on Energy Resources and the Environment (ERE). He is a member of the NARUC Staff Subcommittee on ERE, and Staff Subcommittee on Rate Design.
- NRRI's primary mission is to serve state utility regulators by producing and disseminating relevant, high-quality research that provides the analytical framework and practical tools necessary to improve their public interest decision-making.
- ***Ideas presented are my own, and are not necessarily those of the NRRI Board of Directors or other NRRI staff.***
- ***Mentions of specific companies and organizations are to provide examples only, and do not imply any endorsement by NRRI.***
- *NRRI publications are freely available at www.nrri.org, and archives of NRRI Webinars are posted at YouTube.com, "NRRI Media" channel.*

Brief intro… Tom Stanton

- Tom Stanton is Principal Researcher, Energy and Environment, at NRRI, where he has worked since fall 2010. Mr. Stanton's work for NRRI includes state public policy research papers and education about all kinds of distributed and renewable energy resources.
- A life-long Michigan resident, prior to joining NRRI Tom worked for 10 years at the Michigan Energy Office followed by over 22 years with the Michigan PSC Staff.
- Mr. Stanton earned a B.A. in Communications and M.A. in Journalism, both from Michigan State University, and an M.S. in Public Administration from Western Michigan University.
- Some current projects include:
  - With NARUC Committee on Consumers and the Public Interest (CPI), mini case studies of best practices in services for low-income customers, and in reducing utility bill payment delinquencies and disconnections;
  - Microgrids and remote mini-grids policy frameworks, possibly including all steps on the "energy ladder" of products and services;
  - Survey of Grid-Modernization Activities in the states; and,
  - New works in progress including *COVID-19 State Response Tracker* on the NARUC web site, and *PURPA Tracker* summary of state PURPA rules and regulations, coming soon on the NRRI Website.

Today's topics

❶ What are the main types of actions states are taking now, to enable demand response?

❷ Where does DR fit into the comprehensive framework of the fast-changing utility industry?

❸ Descriptions of several types of state actions, as examples of different approaches.

❹ Questions about future visions: Will utilities provide the platform, choreograph the action, or run the whole production?

Today's topics

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❹ Questions about future visions: Will utilities provide the platform, choreograph the action, or run the whole production?

Summary of recent state actions on DR

- From 2017 until today, 25 states and the District of Columbia have taken action on DR – legislative, regulatory, or both.
- Eight major types of actions are noted, including changes in: (1) distribution system planning; (2) IRP; (3) analyzing and implementing non-wire solutions; (4) DR pilots; (5) DR rates; (6) Customer-facing Apps; (7) PBR and PIMs; (8) new utility business models; plus, some other miscellaneous actions.
- See supplemental slides at the end, with additional state-by-state details.

Summary of recent state actions on DR

State Name ↓ / Actions →	DSP	IRP	NWS	DR Pilots	DR Rates	Apps	PBR & PIMs	Biz Models	Other
Arizona	○	◒			○	◒	○	○	○
California			◒		●				◒
Colorado	○		○		○				
Connecticut	○		◒	○	○				○
District of Columbia	○		○	○	○				○
Georgia	◒	◒		◒					
Hawaii					○				○
Idaho	◒	◒							
Illinois				○	◒			○	◒
Kentucky	○	○		◒	◒				
Louisiana					○				
Maine	○		●						
Massachusetts					◒		◒	◒	◒

State Name ↓ / Actions →	DSP	IRP	NWS	DR Pilots	DR Rates	Apps	PBR & PIMs	Biz Models	Other
Michigan	◒	◒		◒	◒		◒		
Minnesota	◒	◒			◒		◒	◒	
Missouri	○	○							○
Mississippi	◒	●		◒	●				●
New Hampshire			○	○	◒				◒
New Jersey			○		○	○			○
New York			◒						
Ohio					○				
Rhode Island					○				◒
South Dakota					◒				
Utah				◒					
Virginia									◓
Wisconsin					◒				

Key:
- ● A final commission order has approved a program
- ◒ A proceeding which includes a proposed program is underway
- ○ A proceeding to address this issue is just beginning
- ◓ A commission rejected a proposed program

Source: NC CETC, *50 States of Grid Modernization reports series,* 2019-20.

Today's topics

❶ What are the main types of actions states are taking now, to enable demand response?

❷ **Where does DR fit into the comprehensive framework of the fast-changing utility industry?**

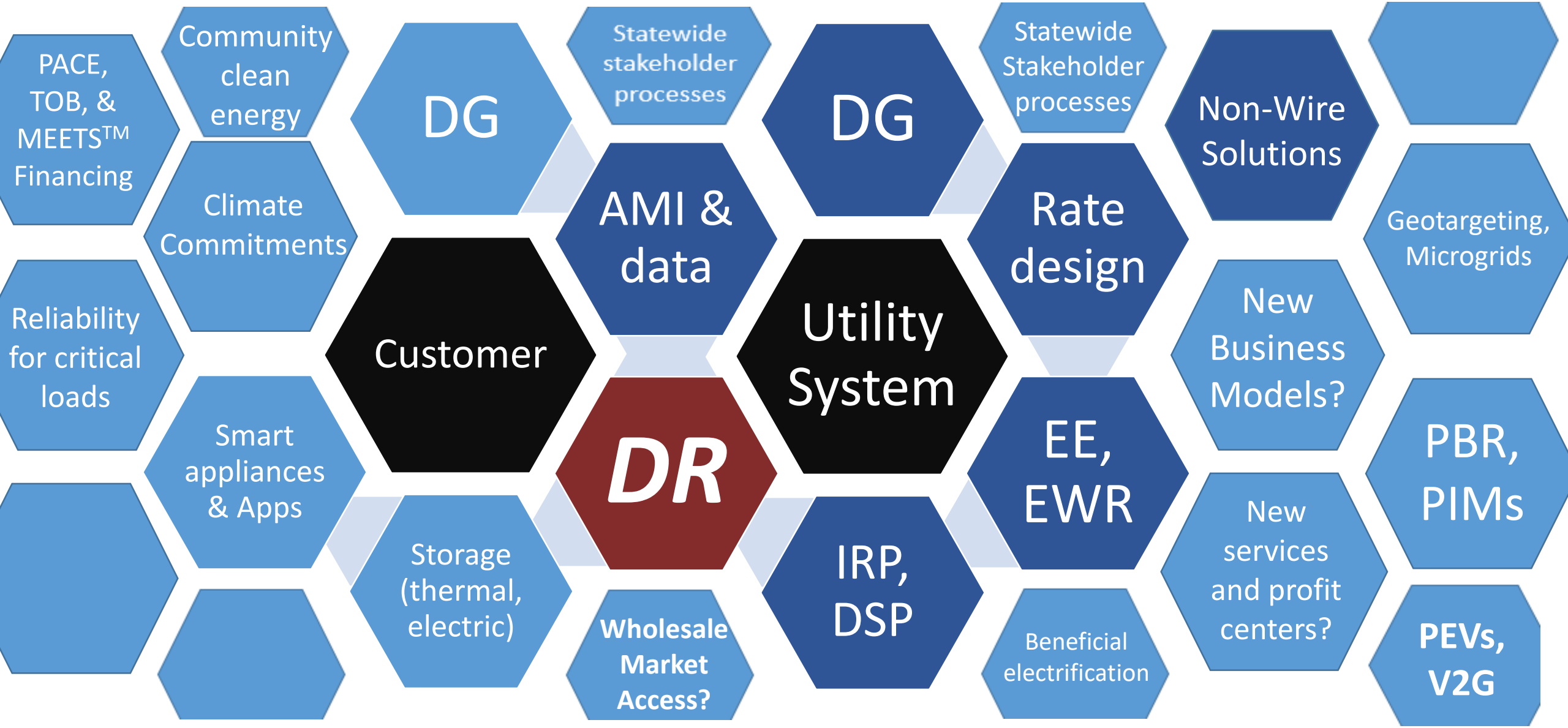
❸ Descriptions of several types of state actions, as examples of different approaches.

❹ Questions about future visions: Will utilities provide the platform, choreograph the action, or run the whole production?

DR in the broad landscape of changing roles

- Changing roles for consumers, prosumers, utilities, and regulators, as DER rewrite economies of scale and scope
- Major driving forces are resulting in massive changes for all major public utility industry structures (not only electric):
  - Aging infrastructure needs replacement… but replacement with what?
  - Environmental imperatives, including pending climate action
  - New and changing customer expectations for service choices, reliability and resilience, clean power
  - Sales levels generally flat or slightly declining

DR, within the DER *embarrassment of riches*



DR is an answer, but what was the question?

- Flexible loads reduce peaks and the need for peakers and expensive peaking power, improve capital utilization rates, reduce future system costs, reduce emissions, cut bills to make utilities more affordable, and contribute to non-wire solutions.
- A new National Standard Practices Manual for DER Benefit Cost Analysis is in the works – expected by July –, exploring benefits and costs values for consumers, the utility system, and for society as a whole.*
- If done with precision, DR saves customers money while resulting in little if any loss of consumer amenity.
- DR can help tip the balance for AMI deployment, by producing benefits that exceed costs.

* Full disclosure: Tom Stanton is an advisory group member for the NSPM.

Consumer perspective benefits and costs

- Lower bills and pressure toward lower rates
- Greater reliability, reduced risks of outages, ensuring service to critical loads
- Set it and forget it simplicity
- Help meeting public clean energy goals
- Possible cost: Loss of amenity, doing without?

Utility system perspective benefits and costs

- Reduced peak demands, leads to greater capital utilization (load duration)
- Increases hosting capacity?
- Best utilizes flexible and variable generation by matching with flexible and variable loads
- Costs: Enabling investments are often needed

Utility company benefits and costs

- Potential benefit: Utility investments to enable DR? Utility investments to implement DR?
- Potential Cost: Lost sales and lost contribution to revenue
- Potential Cost: Reduced need for future capital investment – Are business model changes needed to avoid this potential? Are specific PBR and PIMs needed?

Today's topics

❶ What are the main types of actions states are taking now, to enable demand response?

❷ Where does DR fit into the comprehensive framework of the fast-changing utility industry?

❸ **Descriptions of several types of state actions, as examples of different approaches.**

❹ Questions about future visions: Will utilities provide the platform, choreograph the action, or run the whole production?

A deeper dive into selected state activities

- A closer look at Arizona, California, Illinois, Minnesota, and New Jersey.
- These states are selected because: (1) each state is engaged in **multiple actions** towards increasing DR; (2) together they represent **all the action types**, and, (3) these states represent **multiple kinds of diversity** (e.g., in geography, resource mix, climate zones, wholesale markets, industry structure).
- Note: Arizona, California, and Minnesota are participating in the two-year *NARUC/NASEO Task Force on Comprehensive Electricity Planning (see link in references).*

Why select these particular states?

- Each state is engaged in multiple actions towards DR
- All action types are represented
- These states represent multiple kinds of diversity

State Name / Actions	DSP	IRP	NWS	DR Pilots	DR Rates	Apps	PBR & PIMs	Biz Models	Other
Arizona	○	◒			○	◒	○	○	○
California			◒		●				◒
Illinois				○	◒			○	◒
Minnesota	◒	◒			◒		◒	◒	
New Jersey			○		○	○			○

Key:
- ● A final commission order has approved a program
- ◒ A proceeding which includes a proposed program is underway
- ○ A proceeding to address this issue is just beginning

Arizona – action-packed agenda

- Under discussion is a rule for achieving 100% clean energy by 2050. There is a simultaneous focus on water efficiency, conservation, and the energy/water nexus. Rules propose a 10% demand-response carve-out by 2030.
- APS DSM Plan includes a **customer real-time usage app**. A mobile app is already offered to residential customers.
- Arizona is working towards **taming its duck curve**, pulling out the stops with battery storage, rate designs (including "super-off-peak" and "reverse demand-response" rates) encouraging *more demand* when helpful)

California – working to integrate DR (1)

- Rule 24/32 invites aggregators to shape demands as arbitrage resources in the CAISO market, splitting profits with customers on a shared savings basis. As of January 2020, 20 non-utility providers offer DR services.
- Docket No. C-19-03-005 is a complaint filed by OhmConnect, a non-utility DR provider providing service to roughly 130,000 customers, including 40,000 customers in Southern California Edison's service territory. OhmConnect alleges that SCE has thus far been unwilling or unable to provide the data necessary for OhmConnect to manage its essential business practices and provide a successful customer experience (Complaint, pp. 2-3). SCE answers the complaint, in part, saying that "the substantive issues" are pending in other open dockets.

California – working to integrate DR (2)

- Docket No. A-17-01-012 focuses in part on bringing DR services to disadvantaged communities and to serve as part of NWS, in constrained capacity areas.
- CPUC has been holding DR workshops since 2012.
- CAISO is actively engaged with stakeholders in developing viable wholesale demand response and load participation products, with direct market participation.

Illinois – Ongoing changes in a restructured state (1)

- Illinois *NextGrid* stakeholder process.* The NextGrid draft report, part 4.10 (pp. 131-132) addresses demand response. Among DR concepts that NextGrid participants proposed for consideration and investigation are: **peer-to-peer** energy transactions and carbon trading among customers; **blockchain** accounting; expanding **utility direct load control** programs to appliances in addition to air conditioning; **on-bill financing**; and **EV pilots**.
- NextGrid stakeholders, in the draft report, also discussed **modernizing rate designs** (pp. 187-208) and possible changes to **utility business models** (pp. 145, 153-55, 167). **TOU pricing** (pp. 123-24), **performance-based ratemaking** (pp. 188, 199-201), and **value of distributed energy resources** (pp. 201-204) are topics addressed in the draft report.

*Illinois is one of **7 states plus DC with "branded" comprehensive Grid-Mod efforts**, including the *MIPowerGrid* initiative in Michigan. Others include Maryland, Minnesota, New York, Ohio, and Rhode Island. New Jersey's Energy Master Plan is closely related. Full disclosure: NRRI supported Workgroup #7, on Ratemaking.

Illinois – Ongoing changes in a restructured state (2)

- ComEd/IIT Bronzeville microgrid, touted by many as a "microgrid-cluster" is something of a proving grounds for many technologies, in what supporters are calling a "community of the future." This is perhaps the first microgrid in the country with investments allowed in the distribution company's rate-base, because the utility was able to show positive system benefits.
- Note the ComEd online marketplace, too, where customers can enroll in DR rate designs, claim instant rebates, and purchase "gee whiz" products.

Minnesota – Setting performance standards

- Minnesota law permits utilities to request multi-year rate plans, and the Commission to establish performance measures and incentives. In a series of orders, Minnesota PUC is implementing those provisions.
  - A September 2019 Order in Docket No. E-002/CI-17-401 establishes **performance metrics**, including: four metrics to assess **affordability**; seven initial metrics and four future metrics to assess **reliability**; four different dimensions of **customer service quality**; six metrics for **environmental performance**; and a handful of metrics to assess the **cost-effective alignment of generation and load**, including **demand-response performance** measures.
  - Methodologies and a reporting schedule were decided in an April 2020 Order in the same docket. That order calls on Xcel Energy to "with the Department and interested stakeholders, develop and file a **demand response financial incentive** for Commission consideration by the end of the first quarter of 2021."

Minnesota – many moves forward

- Dockets Nos. 15-662 and 17-775 – Xcel Energy working with stakeholders to design **TOU pilot** rates. Xcel Energy was preparing to launch a **TOU pilot**, starting April 2020, but postponed for now due to COVID-19 emergency.
- Dockets Nos. 18-251 and 19-666 – Xcel Energy **Integrated Distribution Plan (IDP)** cases, including **benefit-cost analysis** practices for grid-modernization and **NWS investments**.
- Dockets Nos. 18-254 and 19-684 – Minnesota Power IDP cases.
- Dockets Nos. 18-255 and 19-674 – Dakota Electric Association IDP cases.
- Dockets Nos. 18-253 and 19-693 – Otter Tail Power Company IDP cases.
- Docket No. 18-684 – Xcel Energy **hosting capacity report**, with August 2019 Order listing specific requirements for improvements in the Company's next filing.
- Docket No. 18-735 – Minnesota Power **demand-response programs**.
- Docket No. 19-564 – Xcel Energy rate case, including grid-modernization and smart grid investments, plus proposed **new performance measures** for **greenhouse gas emissions reductions**, **electric vehicles**.
- Docket No. 20-86 – Xcel Energy proposed new general service **TOU rate for EV charging**. Proposal includes rates differentiated for energy (off-peak, mid-peak, and on-peak) and demand (off-peak, mid-peak).

New Jersey – State with a plan

- New Jersey 2019 Energy Master Plan to 2050. [Governor Murphy's January 2020 Announcement.] Plan calls for "sweeping regulatory reform to reduce emissions and adapt to climate change," within two years. Seven major strategies include:
  - Strategy 1: Reducing Energy Consumption and Emissions from the Transportation Sector;
  - Strategy 2: Accelerating Deployment of Renewable Energy and Distributed Energy Resources;
  - Strategy 3: Maximizing Energy Efficiency and Conservation, and Reducing Peak Demand;
  - Strategy 4: Reducing Energy Consumption and Emissions from the Building Sector;
  - Strategy 5: Decarbonizing and Modernizing New Jersey's Energy System;
  - Strategy 6: Supporting Community Energy Planning and Action in Underserved Communities; and,
  - Strategy 7: Expand the Clean Energy Innovation Economy.

New Jersey – Work towards comprehensive changes

- Docket No. EO18101111 – PSE&G proposed ***Clean Energy Future*** **plan**, includes among other things: **EVs, energy storage, microgrids for critical facilities, peak reductions for public sector facilities, a smart home pilot program, non-wire alternatives,** and a **Volt-VAR pilot program**. A February 2020 Order continues pre-existing energy efficiency programs until September 2020, while stakeholder talks continue.

Today's topics

❶ What are the main types of actions states are taking now, to enable demand response?

❷ Where does DR fit into the comprehensive framework of the fast-changing utility industry?

❸ Descriptions of several types of state actions, as examples of different approaches.

❹ **Questions about future visions: Will utilities provide the platform, choreograph the action, or run the whole production?**

Possible utility roles: (1) Platform provider

- Open system with standard communications protocols invites all participating parties
- Utility provides data about its system, and third-parties design and offer products and services to help consumers lower bills

Possible utility roles: (2) Choreographer

- Utility coordinates resources for providers and customers.
- Utility bids resources into wholesale markets.
- Utility identifies NWS opportunities, and helps corral multiple resources to develop NWSs.

Possible utility roles: (3) Producer/director

- Utility manages and controls which technologies get deployed, and under what circumstances.
- Utility takes the leadership role in what gets offered, to whom, when and how.

References (1)

- Edison Electric Institute, 2019, *Emerging Energy Solutions for Residential Customers – Case Studies*. Available at https://www.eei.org/future/Documents/SolutionsForResidentialCustomers.pdf.
- Environmental Defense Fund, 2015, *Putting Demand Response to Work for California,*
- Gold, Rachel, Corri Waters, and Dan York, January 2020, *Leveraging Advanced Metering Infrastructure To Save Energy*, American Council for an Energy Efficient Economy, Report U2001. Available at https://www.aceee.org/sites/default/files/pdfs/u2001.pdf.
- Gold, Rachel, Amanda Myers, et al., ***Performance Incentive Mechanisms for Strategic Demand Reduction***, Report U2003, February 2020. Report by American Council for an Energy-Efficient Economy and Energy Innovation: Policy & Technology, LLC. https://energyinnovation.org/resources/our-publications/
- FERC Staff, 2019, 2019 Assessment of Demand Response and Advanced Metering. Available at https://www.ferc.gov/legal/staff-reports/2019/DR-AM-Report2019.pdf.
- NARUC Center for Partnerships and Innovation, ***Smart Grid Interoperability:*** *Prompts for State Regulators to Engage Utilities,* April 2020 Report by CPI Senior Manager Kerry Worthington and Chris Villarreal from Plugged In Strategies LLC. Available at https://bit.ly/NARUCSmartGrid.

References (2)

- NARUC Center for Partnerships and Innovation, ***Electric Vehicles:*** *Key Trends, Issues, and Considerations for State Regulators*, October 2019 Report by CPI staff Charles Harper, Gregory McAndrews, & Danielle Sass Byrnett. Available at https://pubs.naruc.org/pub/32857459-0005-B8C5-95C6-1920829CABFE.
- NARUC Center for Partnerships and Innovation [Web page with resources library], https://www.naruc.org/cpi/.
- NARUC-NASEO Task Force on Comprehensive Electricity Planning [Web page], https://www.naruc.org/taskforce/.
- NARUC Resources Library (search for “demand response”), at https://pubs.naruc.org/resources/library/index.cfm.

MI Power Grid: Demand Response Workgroup Meeting

Supplementary slides – Preliminary State Action Summaries

Tom Stanton, Principal Researcher, Energy and Environment
National Regulatory Research Institute

April 28, 2020

- This table is a draft, work in progress.
- The major information source is North Carolina State University, Clean Energy Technology Center, *50 States of Grid Modernization* reports series (2017-2020).*

  Available at: https://nccleantech.ncsu.edu/the-50-states-reports/

* Full disclosure: Tom Stanton helps edit these reports.

State Name	Actions about Demand Response
Connecticut	• 17-12-03 – DSP. NWAs. Storage. pilots. New rate designs. SUBdockets. • 17-12-03RE03 – energy storage. • 17-12-03RE06 – interplay between interconnection practices and inhibiting customer islanding and energy storage. • 18-12-35 – energy storage. paired with PV for year-around peak load reduction. Coordination with utility TOU peak- and off-peak hours. Docket stay while parties discuss policy and program design. • 19-06-29 – VDER docket, including demand reductions and variety of distribution system costs and benefits.
District of Columbia	• Formal Case. No. 1130 – DC MEDSIS proceeding, now "PowerPath DC". NWAs. DSP. Rate design including residential dynamic pricing. Microgrids working group. January 2020 Order. • Formal Case No. 1106-1 – PBR and PIMs.
Georgia	• Docket No. 42516 – Georgia Power Grid Investment Plan, includes Demand Response. Settlement agreement approved December 31, 2019, includes plans for evaluating an **enhanced demand response program for industrial customers**.
Hawaii	• Docket No. 2019-0323 – in September 2019, HI PUC opened this **docket, to investigate Demand Response, DER, and Rate Design** for the HECO companies. The docket is considering new DER programs and tariffs, advanced rate designs, interconnection processes and standards. A technical workshop was held in January 2020.
Idaho	• Docket No. IPC-E-19-19 – Idaho Power's 2019 **IRP** presented a preferred portfolio including 60 MW of battery storage (installed in 2034, 2035, and 2037) and 50 MW of **demand response** (deployed over 2026-2038). In July 2019, the utility stated that it would need to perform supplemental analysis related to its capacity expansion modeling approach. In August 2019, the Commission issued an order stating that no further action will be taken on the application until Idaho Power provides the supplemental analysis. Idaho Power filed its amended IRP on January 31, 2020. The amended preferred portfolio includes 80 MW of battery storage to be installed between 2029 and 2034. The plan also includes 30 MW of demand response to be deployed from 2031-2036.
Kentucky	• Docket No. 2019-00443 – Kentucky Power IRP proposal includes both **residential and commercial demand response programs** with an annual budget of roughly $400.000. • Docket No. 2019-00277 – Duke Energy Kentucky DSM program case. A settlement agreement filed March 6, 2020, includes a proposed **peak-time rebate pilot** program.

State Name	Actions about Demand Response
Louisiana	• Docket No. U-35443 – Entergy Louisiana proposes a new **market-value demand response** rider. The proposed schedule MVDR would enable end-use customers and aggregators to operate in the MISO DR market. Entergy Louisiana would operate as the MISO Market Participant, on behalf of the participating customers and aggregators. An initial hearing is scheduled for August 21, 2020.
Maine	• H.P. 855 – LD 1181 – This Maine Law took effect in June 2019. The law establishes a "**nonwires alternative coordinator**" that will provide services under contract to the State Public Advocate's office. The nonwires alternative coordinator shall: review small transmission and **distribution project planning studies** and make recommendations; (b) conduct benefit-cost analyses and make recommendations regarding alternatives and procurement of recommended nonwires alternatives; and (c) track the implementation of nonwires alternative projects in the State and issue quarterly reports on progress, including budgets, timelines, costs and benefits (Maine PL 298, Sec. 3. 35-A MRSA §1701, sub-§2-A). • Dockets Nos. 2016-00049, on the Commission's own motion, and 2018-00171, for Central Maine Power Company, are associated with implementing the new law.
Massachusetts	• <date, 2019> – Massachusetts, regulators approved **performance-based incentives** for customer-owned energy storage that is dispatched during targeted call events. • Legislation passed in 2018 directs the Massachusetts Department of Energy Resources (DOER) to establish a "clean peak standard" for the state. The DOER proposed standard was filed with the Massachusetts General Court on March 20, 2020. The proposed regulation will count **qualified demand response resources** contributions to the standard. The proposed standard 225 CMR 21.05(1)(a)(3) states in part, "The Department shall publish a Guideline on Demand Response Resources to explain the parameters of Demand Response Resources in the Clean Peak Standard." • Dockets Nos. 18-50, 19-130 – Massachusetts DPU cases are investigating **utility business model reform**, including mechanisms for **performance based regulation (PBR).** Under consideration are **PBR metrics** for: improvements to customer service/engagement; reductions in system peak; energy efficiency and active demand management, and strategic planning for climate adaptation. Peak reduction measures, among others, would include demand response.

State Name	Actions about Demand Response
Michigan	• May 30, 2019 – MPSC **Staff Report and Recommendations** on Demand Response Aggregation • October 2019, Docket No. U-20645 – Michigan Governor Gretchen Whitmer and Michigan PSC announce ***MI Power Grid initiative,*** a multi-stakeholder effort aiming to help integrate new clean energy technologies and optimize grid investments. Topics to be addressed include innovative rate offerings, **demand response**, technology pilot programs, data access and privacy, **performance-based ratemaking**, and **advanced planning processes**. The PSC Staff will file an initial report on pilot projects by June 30, 2020, an overall status report by September 30, 2020, and final report by middle to late 2021. • Docket No. U-20628 – The Michigan PSC convenes a **Demand Response Collaborative**, to consider implementation of effective demand response tariffs and efficient deployment of load modifying resources. Participants include Commission Staff, Utilities, and other interested stakeholders. The Commission directs the Collaborative to complete a report by July 31, 2020. • Docket No. U-20602 – **TOU rates pilot** with opt-out provisions, was approved for DTE Electric Company customers in September 2019. • Docket No. U-20164 – Consumers Energy proposal includes recovery of demand response costs and a financial incentive mechanism to encourage its use of **demand response resources**. • Docket No. U-20591 – Indiana Michigan Power Co. IRP proposal includes 180 MW total of energy waste reduction (EWR) and **demand response resources**. The case schedule has been suspended pending completion of settlement discussions. • Docket No. U-20359 – • Docket No. U-20697 – Consumers Energy general rate case includes a request for cost recovery for **demand response programs**. A preliminary procedural schedule was filed on March 24, 2020.
Missouri	• Dockets Nos. EO-2020-0044, EO-2020-0045, EO-2020-0046, and EO-2020-0047 – Missouri PSC opened these dockets to consider special issues in four electric utility companies' IRPs. Orders in late 2019 direct the utility requires the utility to consider foreseeable **demand response, energy storage**, and DERs as factors in alternative resource plans, to develop and provide a database of information on distributed generation and **distributed energy storage**, and to analyze **integrated distribution planning** as a way to lower overall system costs.

State Name	Actions about Demand Response
Mississippi	• Docket No. 2018-AD-64 – Mississippi PSC, in a November 22, 2019, Order, approved new rules for **Entergy Mississippi's IRP**. Consideration of **demand response and DER options** is required. The final IRP rule (p. 9) states: "Well- designed DSM offerings provide opportunities for customers of all types to adopt energy efficiency and **demand saving measures** to increase control and provide greater opportunities to reduce their energy bills." The Rule (pp. 2, 10) further specifies demand response offerings may include but are not limited to **direct load control** and **incentive rates**. • Docket No. 2018-UN-133 – Entergy Mississippi filed in this docket, in July 2018, a ***Smart Energy Services* proposal**. The Company stated it "has identified a broad range of Smart Energy Services that the Company plans to develop and ultimately could offer to meet evolving customer expectations." In prefiled testimony (p. 5), the Company explained its Smart Energy Services offerings will: encompass[] traditional energy efficiency ("EE") and demand response ("DR") offerings (often referred to together as demand-side management, or "DSM"); new emerging technologies and services around distributed energy resources, or "DERs" (e.g., solar photovoltaic ("PV") systems, battery energy storage, distributed-scale back-up generation, and community solar), home energy services, and new customer-centric billing and payment options (e.g., pre-pay and fixed billing). A December 2019 Mississippi PSC Order approves a **3-year pilot program** under which Entergy Mississippi will work with as many as 20 qualifying commercial customers. The utility will install **utility-owned distributed natural-gas backup generators**, in size ranges expected to range from about 50 to 500 kW. The generators will provide reliability benefits to the customers during grid outages, and the utility will retain the right to periodically dispatch the generators as **demand-response resources**, when their operation will help **mitigate high locational marginal prices in the MISO market**, which would otherwise be borne by all of the utility's electric customers. The estimated $3.5 million revenue requirement will be included in and recovered through base rates.
New Hampshire	• Docket No. DE 16-576 – Order No. 26,124 (April 30, 2018, *Order Addressing* ***Non-Wires Alternative Pilot Programs***, p. 9) "[d]irect[s] parties to consider implementing one or more demonstration projects… to address distribution system capacity upgrade avoidance or deferral." In this same docket, in Order No. 26,316 (December 18, 2019), the Commission directed its Staff to engage a consultant to perform a **Value of Distributed Energy Resources** Study. • Docket No. 19-133 – Eversource **pilot program application**, in response to Order No. 26,124, for *Westmoreland Clean Innovation Project*, which would include a **demand response BYOD program**, **utility-owned battery storage**, and a **microgrid**. In a February 28, 2020, letter to the Commission, the Company withdrew its request from Commission consideration.

State Name	Actions about Demand Response
New York	• Case No. 17-E-0238 – Niagara Mohawk Company AMI proposal, includes proposed changes to its *Clifton Park* ***Demand Reduction REV Demonstration Project*** to test **innovative pricing proposals on an opt-out basis.** • Cases Nos. 19-E-0378 and 19-E-0380 – NY utility general rate cases, include proposals for **AMI infrastructure**, which also include proposed **incentive mechanisms for non-wires alternative projects.** • Cases Nos. 20-E-0008, 20-E-0113, and 20-E-0112 – New York utilities have filed proposals for demand response programs and **demand response coupled with energy storage** programs. • Cases Nos. 14-01884/14-E-0423 – March 2020 Orders approve changes to multiple New York utility companies' **dynamic load management tariffs** and adopting program changes.
Ohio	• Docket No. 19-0334-EL-UNC – Dayton Power & Light's proposal is pending, for a **residential demand response pilot program** that would allow **utility direct load control** of air conditioning loads, using smart thermostats.
Rhode Island	• Docket No. 4979 – National Grid's 2020 Energy Efficiency Plan is pending Commission action. The plan includes a proposal to allow **battery storage** participation in the Company's **active demand response program**, which provides for **verifiable load-shedding** in response to a signal from the utility.
Utah	• Docket No. 16-035-36 – A Public Service Commission of Utah June 28, 2019 Order approves programs filed by Rocky Mountain Power Company, in response to the state's Sustainable Transportation and Energy Plan (STEP) Act (Utah Code §54-20-105). Two of the three proposed programs involving EV charging and include demand-response capabilities. One of the proposals includes **batteries charged by solar facilities**, and **utility control** of the batteries to deploy them for system-wide demand response. The utility also has a long-running *Cool Keeper* program, which enables **direct load control of central air conditioners.** The approximately $20 million in funding for the programs comes from the previously approved amounts allocated to Rocky Mountain Power's Other Innovative Technology Program and Other New Technology Programs, and unused Utah Solar Incentive Program (USIP) (Order, pp. 1, 19).
Wisconsin	• Docket No. 3270-TE-106 – Madison Gas & Electric application, approved by PSC in November 2019, includes **smart thermostat devices enabling customers to participate in demand response events.**

MI POWER GRID

Making the Most of Michigan's Energy Future

Next Steps

Draft Report Timeline

- **May 12, 2020**- Comments/redlines to outline due to Staff
- **July 1, 2020-** Draft report released to stakeholders
- **July 17, 2020-** Comments/redlines to draft report due to Staff
- **July 24th, 2020-** Final written comments wishing to be attached as an appendix to Staff's report due
- **July 31, 2020-** Final report filed to docket

Opportunities for Feedback on Staff Report

- Initial Feedback today
- Informal feedback on Draft report
- Attachment to Staff report
- Formal comments in docket
  - Staff will recommend that the Commission issue a notice to allow stakeholders an additional opportunity to comment on the final draft of the Staff report directly in the docket.
- Redline changes and comments should be sent to Katie Smith and Erik Hanser.
  - SmithK72@michigan.gov and HanserE@michigan.gov

Next Steps

- Staff will send out the recording from today's meeting
  - Posted on DR group website
- Staff will begin drafting the Staff report and incorporate stakeholder feedback throughout process

Questions, Comments, or Feedback?

Contact

Katie Smith SmithK72@michigan.gov and

Erik Hanser HanserE@michigan.gov

COVID-19 Response DR Program Continuity (U-20757)

- Staff to develop a work plan and to convene energy providers operating these programs and other stakeholders.
  - Identify potential impacts on meeting energy or demand savings targets and ways to mitigate such impacts and ensure program continuity.
  - Identify best practices for continuing to serve low to moderate income households, including those impacted directly by COVID-19, and related outreach.
- Staff preparing questionnaire for energy providers.
- DR Stakeholder Meeting May 19, 2020.
- Staff to file update by June 15, 2020.
- Contact Roger Doherty dohertyr1@michigan.gov

MI POWER GRID

Making the Most of Michigan's Energy Future

Adjourn