MI POWER GRID

Making the Most of Michigan's Energy Future

Agenda Items		
9:00 am	Welcome and Introductions	Katie Smith, MPSC staff
9:10 am	Review of Stakeholder Feedback (Solutions and Tariff documents)	Erik Hanser and Dave Isakson MPSC staff
9:40 am	MISO presentation	Michael Robinson, MISO
10:25 am	PJM presentation	Peter Langbein, PJM
11:10 am	Break	
11:20 pm	Panel Discussion (MISO, PJM, DTE, CE, I&M)	
12:50 pm	Next Steps and April Stakeholder Meeting Overview	MPSC Staff
1:00 pm	Adjourn	

MI POWER GRID

Making the Most of Michigan's Energy Future

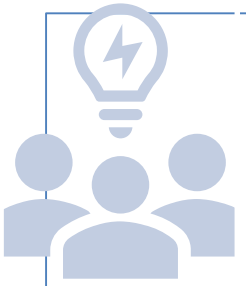
Review of Stakeholder Feedback

Erik Hanser and Dave Isakson, MPSC Staff

Solutions Document

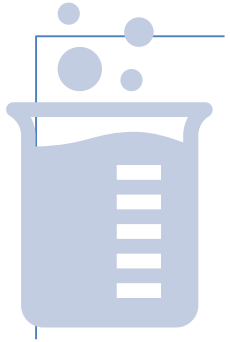
- Compiled based on 2-19 Panel discussion
- Identifies possible solutions to LMR underperformance, including:
  - Clarity/consistency in communications processes
  - Standardization of notifications
  - Increased customer engagement/contact
  - The use of enabling technologies
  - Testing
- Initial Staff reactions included in document
  - Agreed with most concepts
  - May update after panel discussion today (particularly testing)

Additional Solutions



Natural Gas Interaction

Remove Perverse Incentive



Early Economic Interruptions

Formalize Notification in Tariff

Feedback Received (Solutions doc)

- Real time metering
  - 75% of DR customers should have (espec. for C&I)
  - Weigh this against cost
  - Some utilities already offer C&I real time metering, have hourly smart meter data for residential
- Enabling tech
  - Good, but pilot to weigh cost/benefit
- Customer interaction
  - Real time coaching/monitoring during events
  - Multiple contacts for each site
  - Send out dispatch instructions in 5 minutes
- Centralized system/platform can help with this
  - Automated system frees up staff to manually follow-up with underperforming customers
  - Centralized platform also helps with post-event reporting and generally makes customer outreach/communication easier, more customized

Feedback Received (Solutions doc)

- Testing
  - Some recommend annual real power test, majority prefer simulation only
  - Compensation for testing should be evaluated on program by program basis
    - Take into account total peak reduction and cost/benefit to overall customer base
- Perverse Incentives
  - Recommend study with small number of customers before making changes
  - By increasing load before an event, the customer is able to extend the duration of their reduction
- Diversity DR program offerings, offer more flexibility
  - Variations in interruption requirements, notification times,
  - Make use of DR aggregators
- Uniformity
  - Good in some areas, especially communication, as long as not prescriptive
  - Need flexibility in pricing, length of contract

Interruptible Tariff documents

- Tariff Comparison, Supporting Data, and Compilation posted
  - Include details on notification, penalties, interruption requirements, etc.
- Key question
  - Would parts of interruptible tariffs benefit from uniformity? Are there sections best left up to each company?
- Staff is also compiling similar for residential interruptible DR
  - Will post to website when complete

- Areas for improvement align with Solutions document
  - Consistency
    - Penalties
    - Interruption start window
  - Transparency
    - Notification
    - Term limits
  - Specificity
    - Contract vs. tariff
    - Availability
  - Testing

JANUARY 16, 2020

Meeting Event | Agenda | Presentations | Recording

STAFF LEADS

Katie Smith
Erik Hanser

RELATED DOCUMENTS

- 2-19 Panel Solutions
- Interruptible Tariff Comparison
  - Supporting Data
- Interruptible Tariff Compilation

RELATED MPSC CASE(S)

- U-20628 (Demand Response Tariffs)
- U-20471 (DTE Integrated Resource Plan)
- U-20350 (UPPCo Integrated Resource Plan)
- U-20563 (CE Demand Response Reconciliation)
- U-20521 (DTE Demand Response Reconciliation)

SIGN UP FOR DEMAND RESPONSE UPDATES

To sign up for updates or to access your subscriber preferences, please enter your contact information below.

*Email Address

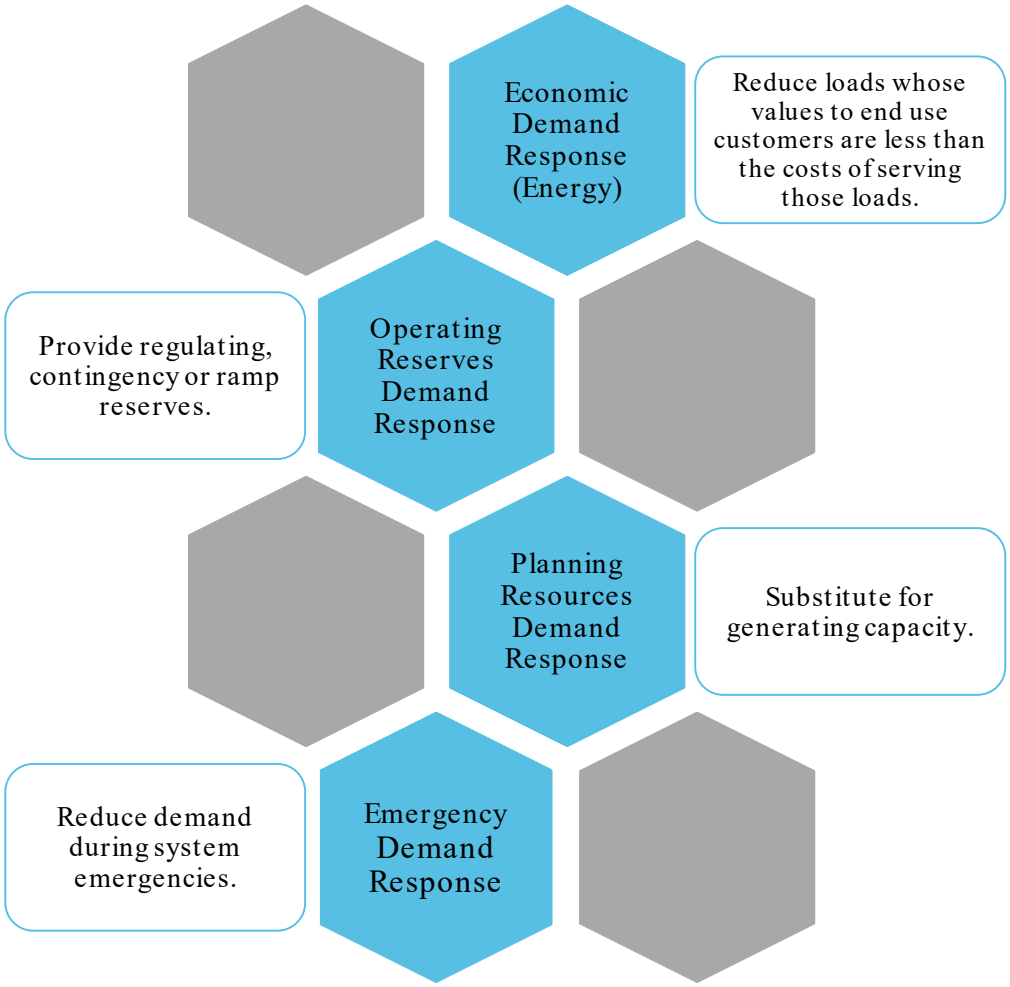
Submit

Demand Response Overview

MI Power Grid

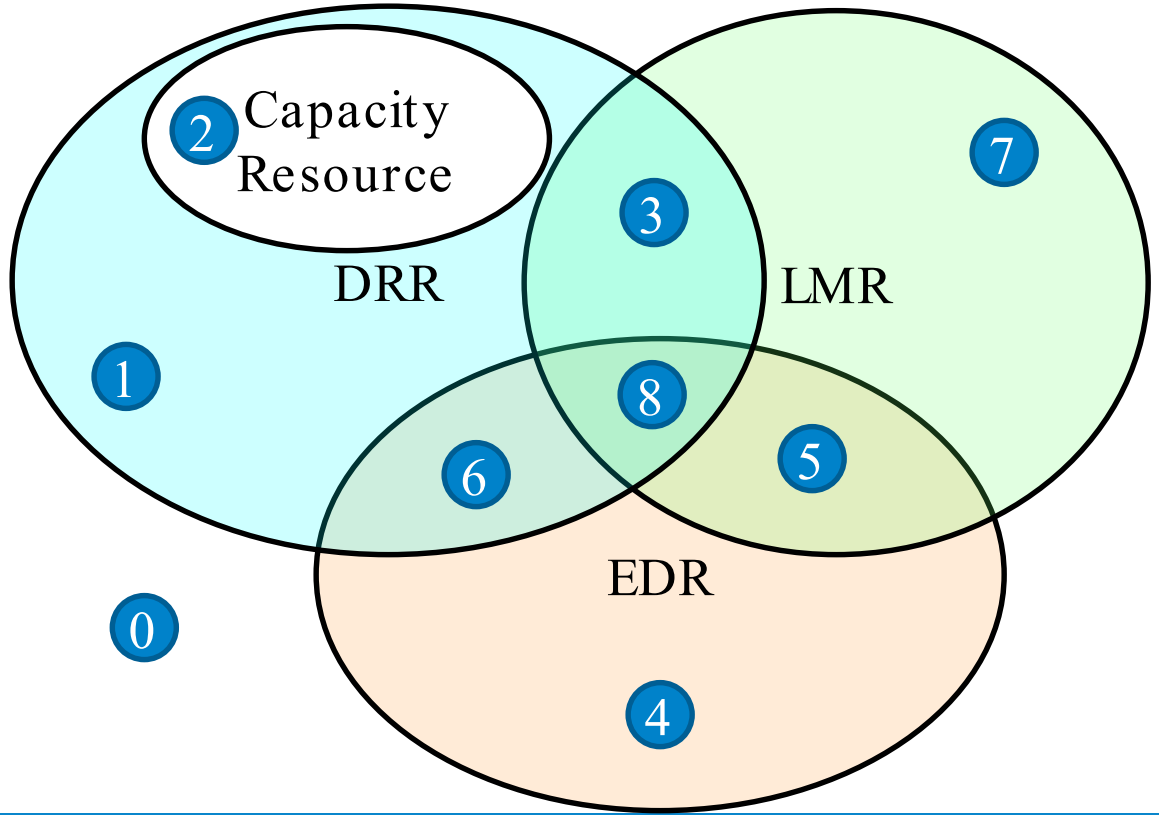
March 17, 2020

MISO Can Employ Demand Response to…



Demand Resource Registration Options

As this figure shows, there are many options available for demand response registration. Note that not all of these configurations have been used by MISO Market Participants, but they are available if desired.



#	Comments/Notes
0	Not MISO Registered
1	There is no DRR "must offer" requirement here, since there are no capacity credits.
2	Uncommon approach for DRR. Resource "must offer" in Energy & AS markets.
3	LMR receives capacity credits, and resource can optionally offer into the Energy & AS markets.
4	EDR Only. No capacity credits or "must offer" requirement.
5	LMR that optionally provides an EDR offer for emergency energy.
6	Similar to "1", but can optionally participate in emergencies
7	LMR only. Not involved in Energy and AS markets.
8	Similar to "5", but can optionally participate in Energy & AS markets.

Performance Evaluation Type

- **Firm Service Level:** A performance evaluation methodology based solely on a Demand Resource's ability to reduce to a specified level of electricity demand, regardless of its electricity consumption or demand at Deployment.
- **Meter Before / Meter After:** A performance evaluation methodology where electricity consumption or demand over a prescribed period of time prior to Deployment is compared to similar readings during the Sustained Response Period.
- **Baseline Type-I:** A Baseline performance evaluation methodology based on a Demand Resource's historical interval meter data which may also include other variables such as weather and calendar data.
  - Symmetric or weather sensitive adjustments allowed
- **Baseline Type-II:** A Baseline performance evaluation methodology that uses statistical sampling to estimate the electricity consumption of an Aggregated Demand Resource where interval metering is not available on the entire population.
- **Metering Generator Output:** A performance evaluation methodology, used when a generation asset is located behind the Demand Resource's revenue meter, in which the Demand Reduction Value is based on the output of the generation asset.

Measurement & Verification

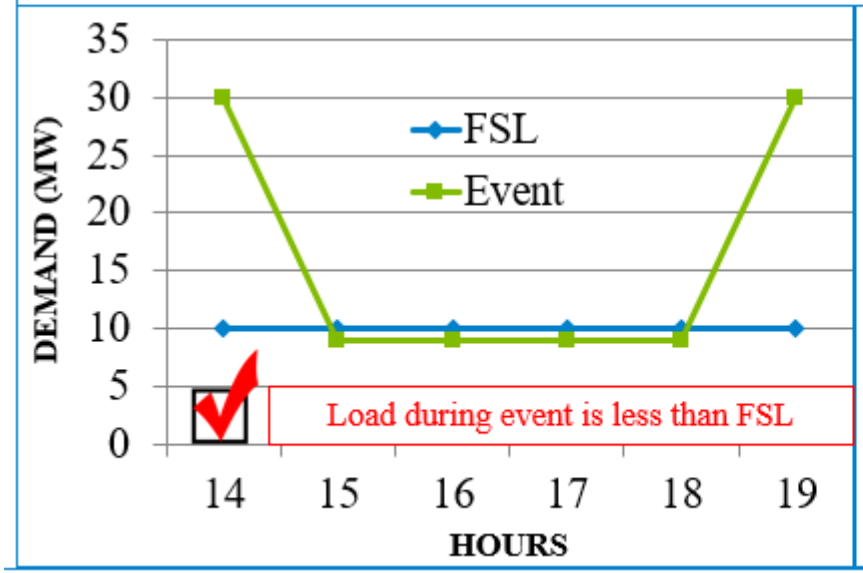
Firm Service Level (FSL)

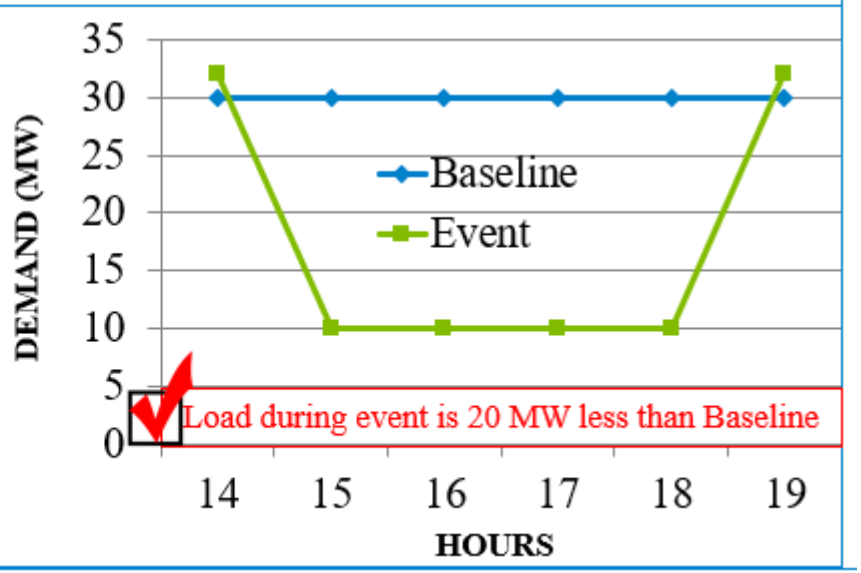
- Required to reduce load to or below its firm service level

10 in 10 Baseline

- Average of previous 10 non-event weekdays for each hour

Example: A LMR (DR) is registered with an expected demand reduction of 20 MW





Comparison of Resource Adequacy LMR Rules before/after January 2019

Requirement	In Place in Jan 2019	In Place Today
Notification Times (ER19-650) effective for PY19-20	Up to 12 Hour notification qualify as LMR with no Documentation	>= 6 Hrs – Documentation Required Between 2 and 6 Hrs – If requested by MISO <= 2 Hrs – No Documentation Required
Monthly Availability (ER19-650) effective for PY19-20	Minimum Summer Only No Monthly Documentation Required MCS defaults to registered Summer capability	Minimum Summer Only <= 6 Months = Documentation Required Between 6 and 9 Months = If requested by MISO >= 9 Months = No Documentation Required Monthly Availability data collected on the registration to populate as default in the MCS
Testing LMR testing (ER19-651) effective 6/1/2019	Not required LMR Accredited via Past Performance Data, State Commission, Third Party Audit or Mock Test	Testing Required (50% minimum) or Opt Out and accept 3x LMP penalty during Emergency Events (Regulatory restrictions on testing exempt from 3x); Opt Out accredited via State Commission, Third Party Audit or Mock Test

Comparison of Resource Adequacy LMR
Rules today versus proposals

Requirement	March 2020	Proposed
Notification Times	Up to 12 Hour notification qualify as LMR	Up to 6 Hour notification qualify as LMR
Calls per Year	Minimum 5 calls per Planning Year No additional payment or incentive to be available more than 5 calls	Capacity Credit to be based on # of calls 5 to 9 calls → 80% Capacity Credit 10+ calls → 100% Capacity Credit
Accreditation	Summer based accreditation Testing requirement or opt out	Utilizing MCS for LMR accreditation will not be included as part of MISO's April FERC filing. MISO will continue to work with stakeholders to better align operations and planning.

Appendix

Energy & Operating Reserves Markets

Demand Response Resource (DRR) refers to a resource type: one that provides service to the energy and ancillary services market.

- **Demand Response Resource (DRR) Type I:**
  - Resource owned by a single Load Serving Entity, or an ARC within the MISO BAA and that (i) is registered to participate in the Energy and Operating Reserve Markets, (ii) that is capable of supplying a specific quantity of Energy, Contingency Reserve or Capacity …through Behind the Meter Generation and/or controllable Load, (iii) is capable of complying with the Transmission Provider's instructions, and (iv) has the appropriate metering equipment installed.
- **Demand Response Resource (DRR) Type II:**
  - Resource owned by a single Load Serving Entity, or an ARC within the MISO BAA and that (i) is registered to participate in the Energy and Operating Reserve Markets, (ii) is capable of supplying a range of Energy, Operating Reserve, Up Ramp Capability and/or Down Ramp Capability...through Behind-The-Meter generation and/or controllable Load, (iii) is capable of complying with Transmission Provider's Setpoint Instructions and (iv) has the appropriate metering equipment installed.

Resource Adequacy Construct

- **Load Modifying Resource (LMR):**
  - A **Demand Resource** or **Behind the Meter Generation** Resource.
- **Behind the Meter Generation (BTMG):**
  - Generation resources used to serve wholesale or retail load located behind a CP-Node that are not included in the Transmission Provider's Set-point Instructions and in some cases can also be deliverable to Load located within the Transmission Provider Region using either Network Integration, Point-To-Point Transmission Service or transmission service pursuant to a Grandfathered Agreement. These resources have an obligation to be made available during Emergencies.
- **Demand Resource (DR):**
  - **Interruptible Load** or **Direct Control Load Management** and **other resources** that can reduce Demand during Emergencies.

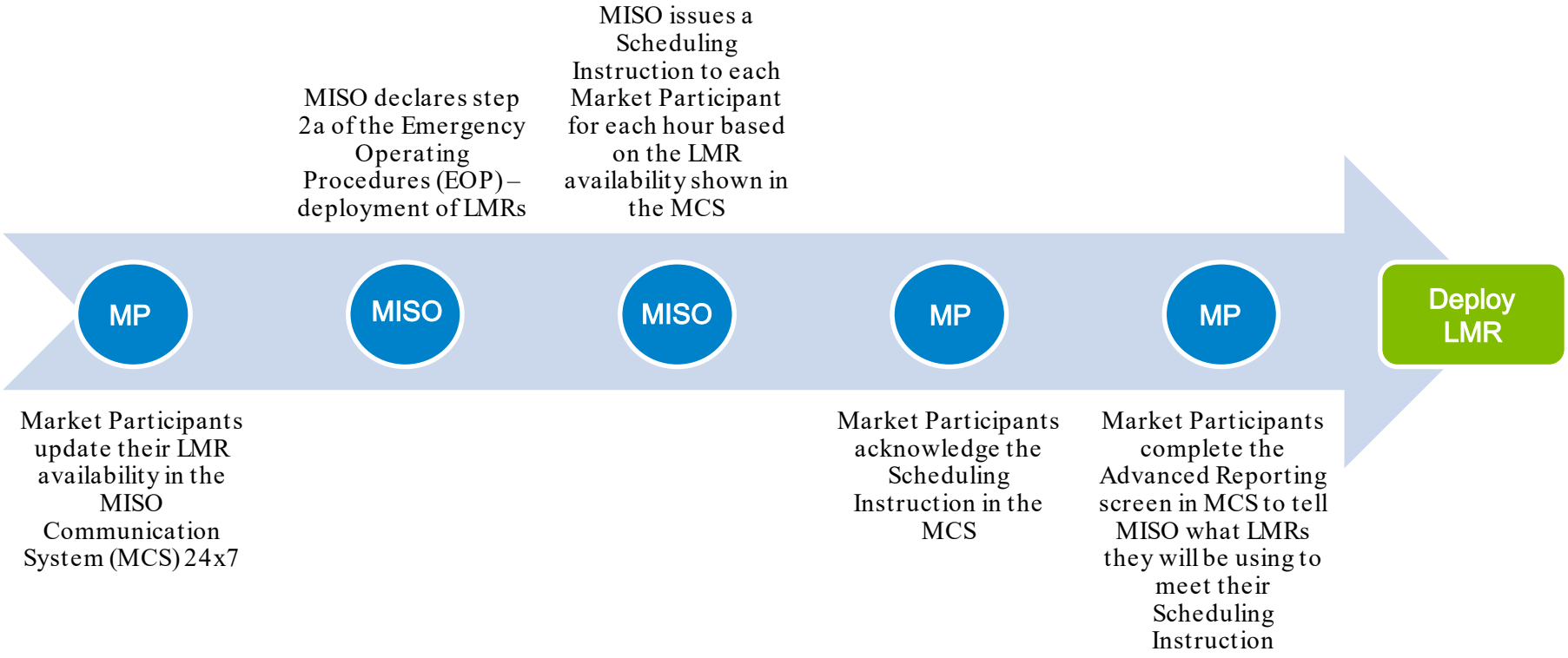
Load Modifying Resource (LMR) is a category that refers to the use of a demand resource toward meeting Planning Reserve Margin Requirement (PRMR)

Emergency Operating Procedures

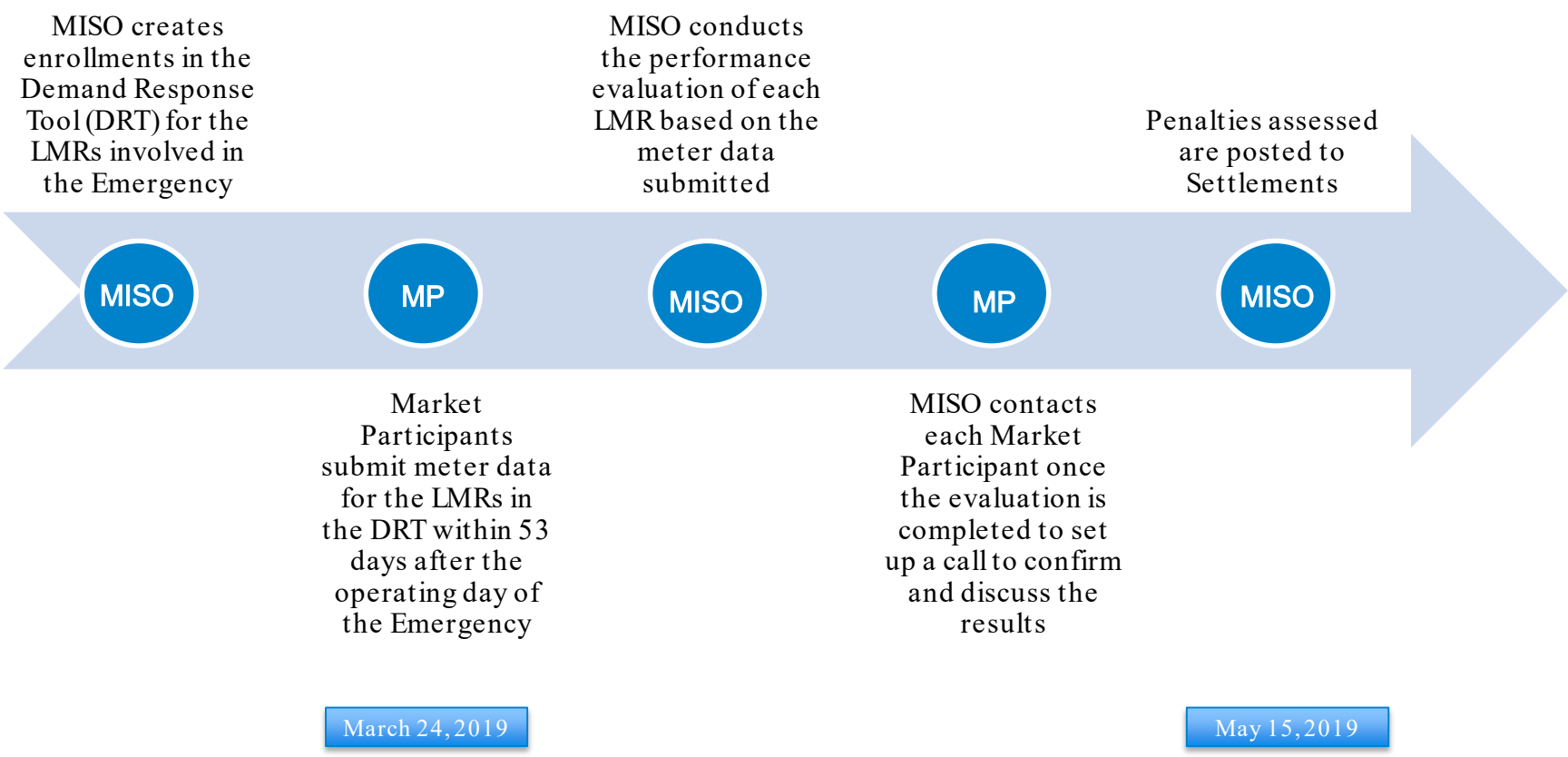
- **Emergency Demand Response (EDR):**
  - The commitment and dispatch of Load reductions, Behind the Meter Generation Resources and other Demand Resources during an Emergency, in accordance with Schedule 30.

Emergency Demand Response (EDR) is a service that refers to the use of a demand resource under a specific Tariff schedule.

Communication Procedure: LMR Deployment



Communication Procedure: LMR Post Event Evaluation



*Dates are examples using January 30th as the Operating Date of the Emergency Event

Market Design Elements

	DRR-Type I	DRR-Type II	LMR	EDR
Demand Response Type	BTMG/(Interruptible/ curtailable) load	BTMG / Dispatchable load	BTMG / DR	BTMG / DR
Size/impact	≥ 1 MW	≥ 1 MW	≥ 0.1 MW	≥ 0.1 MW
Real time telemetry	No	Yes, for regulation service	No	No
In Network Model	Through Load	As negative Gen	Through Load	Through Load
In Commercial Model	Yes	Yes	Through Load	Through Load
Treatment in DART market process	On/Off, not continuously dispatchable for energy	Dispatchable	N/A	N/A
Aggregation in DART	Allowed within single LBA	Allowed under single EPNode	N/A	N/A
Capacity Payment	Eligible	eligible	eligible	Eligible, with dual register as LMR

Emergencies
LMRs

- Communications during Emergencies
  - Through MISO communications system (MCS)
  - Scheduling Instructions (SI) sent to MP and LBA
  - MP must acknowledge within the hour
  - MP must submit which of its LMRs & associated MWs it will use to meet the issued SI
  - Self-scheduled MWs included in SI

Emergency Procedures

- The following progression of steps is followed under Emergency conditions:

EVENT STEP 1	• Commit all Capacity Resources, including DRR-Type I and DRR-Type II, that are designated "Emergency only" • Implement Emergency Max limits, excluding Regulation Reserve • Declare EEA1 – All resources in use. (EEA = Energy Emergency Alert)
EVENT STEP 2	• Declare NERC EEA2 • Instruct Load to be reduced via Module E (LMR) and "Load Management Measures – Stage 1" • Commit EDR Offers, in merit order • Implement Emergency Energy purchases from LBA neighbors if available

Performance Evaluation
Measurement & Verification

- For Demand Resources:
  - After an event, MISO will evaluate the performance of Demand Resources which were sent scheduling instructions during an event
  - Performance is assessed as the consumption baseline minus the metered data during the event
  - During registration, customers can choose to use a default MISO consumption baseline or submit a custom baseline methodology for MISO review and approval
  - Demand Resources can also use a direct load control (DLC) methodology which includes a study to determine the capacity available for the specific program
  - See Attachment TT for details regarding all types of M&V methodologies

Planning Resource Auction and LMRs

- The Planning Resource Auction (PRA) is where an LSE can acquire the necessary Zonal Resource Credits (ZRCs) to meet their Planning Reserve Margin Requirements (PRMR). Thus, the PRA is where MPs can trade or purchase ZRCs.
- LMRs can participate in the PRA provided that …
  - Certification is obtained by the LSE or ARC that the relevant electric retail regulatory authority does not preclude such use, and
  - The LSE or ARC agrees to be responsible for and hold harmless any LSE that purchases the LMR-related ZRCs from non-performance during Emergency penalties, and
  - The MP registers the LMR as a Planning Resource, and then converts its load reduction into ZRCs, which can be used of a part of fixed resource adequacy plan (FRAP), transferred to another MP or offered into the auction.
- DRR, if registered as Capacity Resources, function in the PRA like generation resources.

Requirements to Qualify LMRs

To be qualified as an LMR, a resource must satisfy the following requirements:

- May be claimed by only 1 Market Participant
- ≥ 100 kW (grouping allowed)
- Schedulable within 12 hours (start up time ≤ 12 hours
- Able to achieve the target level provided during registration
- Maintain target level for 4 continuous hours
- Able to respond at least 5 times per year
- Response is an obligation during emergencies
- Cannot be 'netted' against LSE's Forecast Demand in RAR; must be converted into Zonal Resource Credits
- Submit monthly availability in MWs and notification time for the upcoming Planning Year
  - Additional documentation may be required for LMRs with less than 9 months availability or notification times greater than 2 hours.

Registration – LMR
MECT Tool & Zonal Resource Credits (ZRC)

- An LMR must be registered with MISO in advance of the MP receiving ZRCs in the Module E Capacity Tracking (MECT) tool
  - The registering entity must be a Market Participant prior to registering an LMR
  - Any entity that is not a Market Participant, but desires to register an LMR, must contact the Customer and Asset Registration Services team at register@misoenergy.org to become a Market Participant
- The entity that registers the LMR has a choice of how to handle the planning resources (MW) associated with the resource:
  - The ZRCs can be used as part of a Fixed Resource Adequacy Plan (FRAP) offsetting an LSE's planning reserve margin requirement
  - The ZRCs can be traded to another market participant or offered into the PRA

Informational Requirements
LMRs

- MP Name and contact information
- Identity of the LSE and contact information
- Identification of Commercial Pricing Node of the LSE
- LMR identification information (name, city, county, state, etc.)
- LMR contact information (name, email, phone, etc.)
- Operating information *, such as:
  - Shut-down requirements, # interruptions, etc.
  - Curtailment or interruption maximum durations
  - Monthly coincident demand reductions
  - "Firm Service" level, if applicable
  - Selection of M&V protocol from list provided
- Provide written procedures demonstrating ability to reduce load
- Documentation supporting accreditation

* LMR-BTMG will provide relevant generation operating information where applicable

Informational Requirements
LMRs

- Accreditation/Testing
  - Demonstrated annually
    - Performance data from the previous planning year
    - Real power test providing evidence that DR can respond if called upon
      - Credited as one deployment
    - Alternative mechanism if real power test is precluded or waived
      - Subject to potential enhanced penalties
  - LMR-BTMG must provide generation testing information
  - Please see BPM-011 for details regarding DR accreditation

Availability Reporting
LMRs

- Communications
  - Through MISO communications system (MCS)
  - Provide updates to availability specific to each LMR
  - Scheduling Instructions (SI) (and performance evaluation) during Emergencies based on most recent information provided in the MCS
  - LMR availability should be decremented to reflect outages
  - Self-scheduled LMRs should be reflected in MCS
  - LMRs with dual registration: MCS adjusted to reflect net LMRs available
  - See MCS User's Guide

DR in the PJM capacity markets

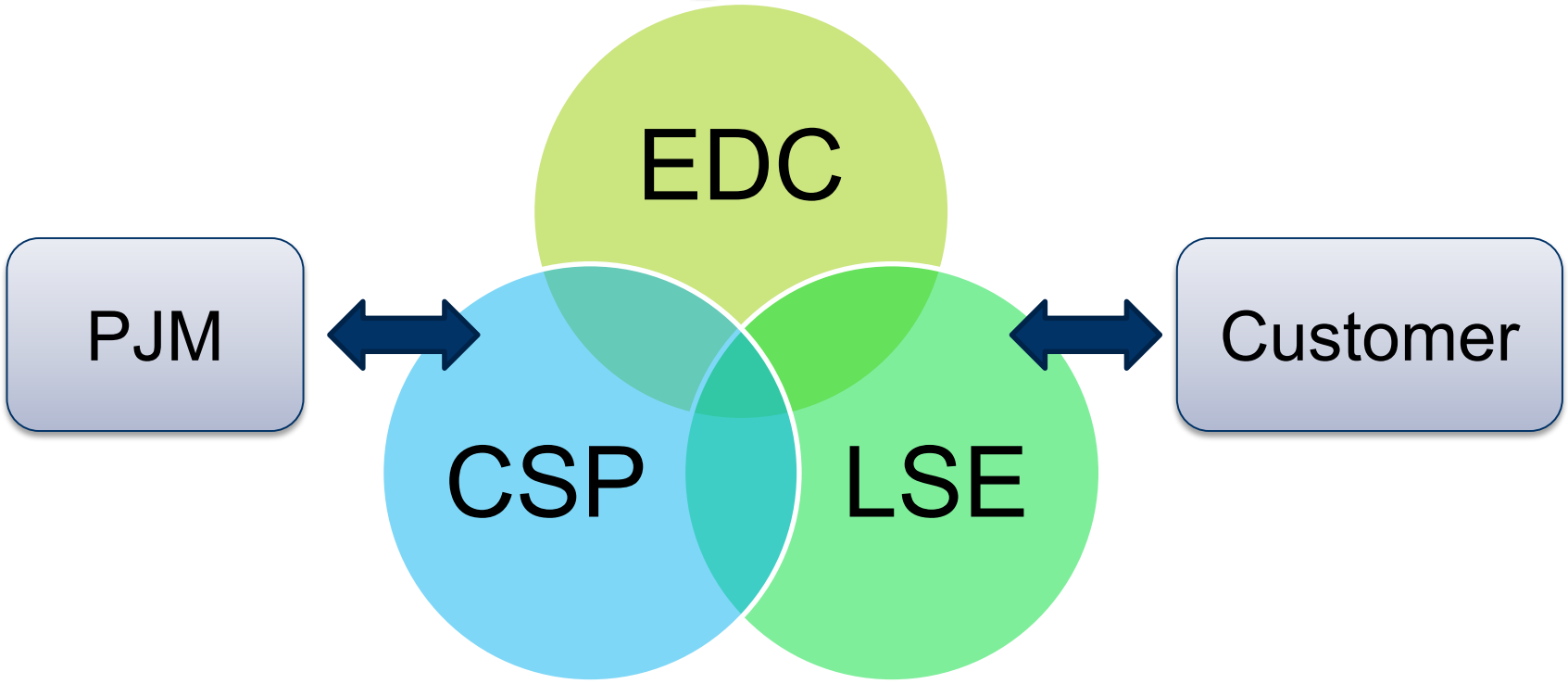
MI Power Grid- Demand Response Stakeholder Meeting

March 17, 2020

Pete Langbein, Manager - Demand Response Operations

Roles in the wholesale market – allows flexibility

Electric Distribution Company – distribute electricity to the customer



Curtailment Service Provide – provide DR services to customer

Load Serving Entity – provide electricity for the customer

Demand Response Opportunities in PJM Wholesale Market

"supply side" "demand side"

Wholesale Service	Demand Response (DR)	Price Responsive Demand (PRD)	Peak Shaving Adjustment (PSA)
Capacity	Yes	Yes	Yes
Energy	Yes		
Day Ahead Scheduling Reserves (30 min)	Yes		
Synchronized Reserves (10 min)	Yes		
Regulation	Yes		

Load Management (Emergency DR)

Economic DR

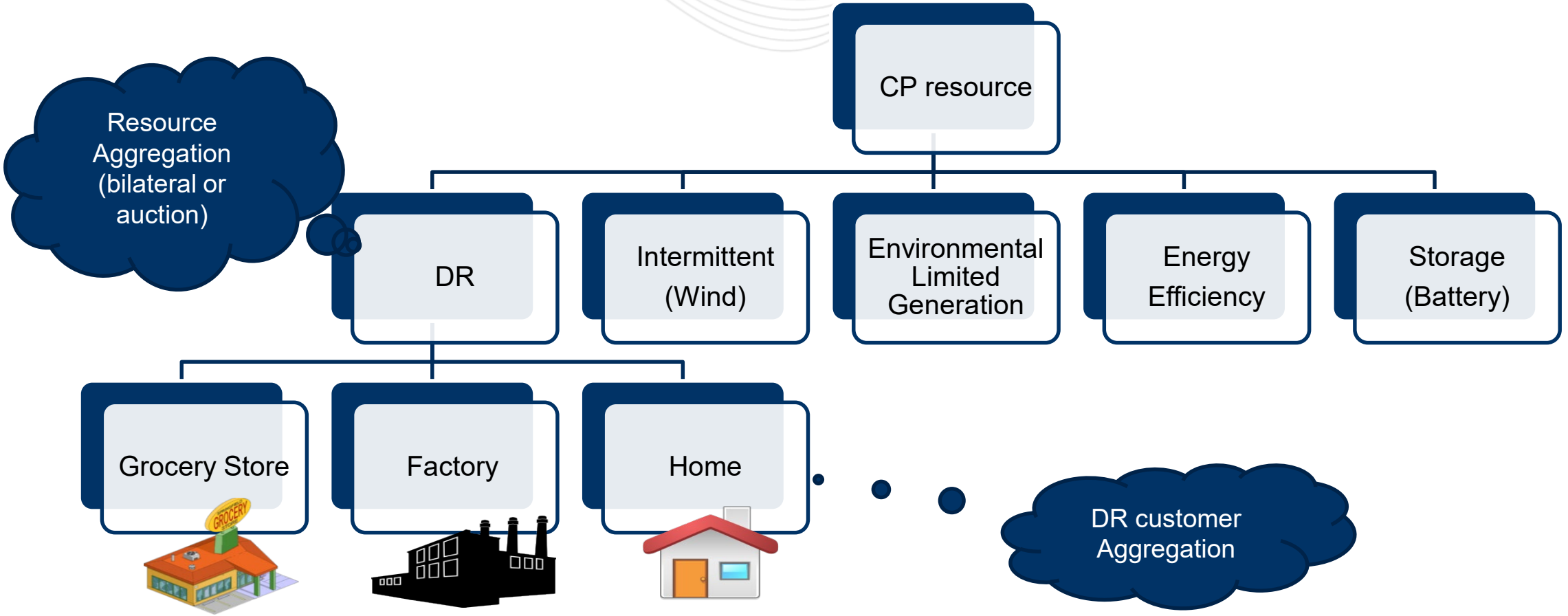
New mechanism

DR is another type of resource that competes to provide (or reduce need for) wholesale market service

Load Management (Capacity and Energy) requirements

- Offer in auction up to 3 years in advance
- Load must be reduced within 30 minutes unless qualify for exception (60, 120 minutes)
  - Safety, potential damage, generation startup, mass market
- Load reductions should be available
  - June through Oct & May: 10am to 10pm
  - Nov through April: 6am to 9pm
- Load reduction based on peak load contribution (”PLC”) assigned by utility in the summer and Winter Peak Load ("WPL") in the winter
  - "Add backs” to PLC for next year
- Penalties – Capability (daily), Event and Test
- Paid for energy up to offer price. Offer price limit based on lead time
- Required to test for 1 hour if not dispatched (*may change to 2 hours*)
- Hourly metering

Capacity Performance
…ability to aggregate to meet annual requirement



DR Summer Period Product (20/21 & beyond)

- June through Oct and May (6 months)
- Receive 6 months of capacity revenue
- Only clears if there are winter resources (additional winter capability) in the auction
- CP penalty structure (PAI, penalty rates based on Net CONE)

Only small portion have cleared due to limited excess Winter MWs

Registrations

- Load Management Registrations are created by the CSP
  - Locations (unique EDC account number) are used to create Registrations
  - CSP must have a contract with the location to submit a registration
- EDC reviews registration for data accuracy & RERRA conditions
- Each registration includes:
  - Location specific information
  - Product type (Capacity Performance, Summer Period)
  - Load Management type (FSL, GLD)
  - Lead Time (Quick_30*, Short_60, Long_120) *Default
  - Nominated Capacity amount
- Registration(s) are linked to a Resource that cleared the auction (or used to support FRR plan or bilateral transaction)

RERRA Conditions

- If EDC is large (>4 million MWh) then by default the Demand Resource may participate in Demand Response unless there is Relevant Electric Retail Regulatory Authority (RERRA) evidence that prohibits participation.
  - Registration will auto confirm if EDC takes no action after (10) business days

- If EDC is small (=<4 million MWh) then by default the Demand Resource may not participate in Demand Response unless there is Relevant Electric Retail Regulatory Authority (RERRA) evidence that allows participation.
  - Registration will auto deny if EDC takes no action after (10) business days

CP capacity nomination process

- CSP determines Summer and Winter nominated capacity MWs with summer vs winter FSL (firm service level)
  - Annual nomination for the RPM Resource is the lessor of:
    - Sum of Summer nominated capacity of registrations with same RPM Resource.
      - Registration summer nominated capacity = PLC – [FSL(summer) * line loss factor)
    - Sum of Winter nominated capacity of registrations with same RPM Resource.
      - Registration winter nominated capacity = {Winter Peak Load * Winter Weather Adjustment Factor – FSL (winter)} * line loss factor

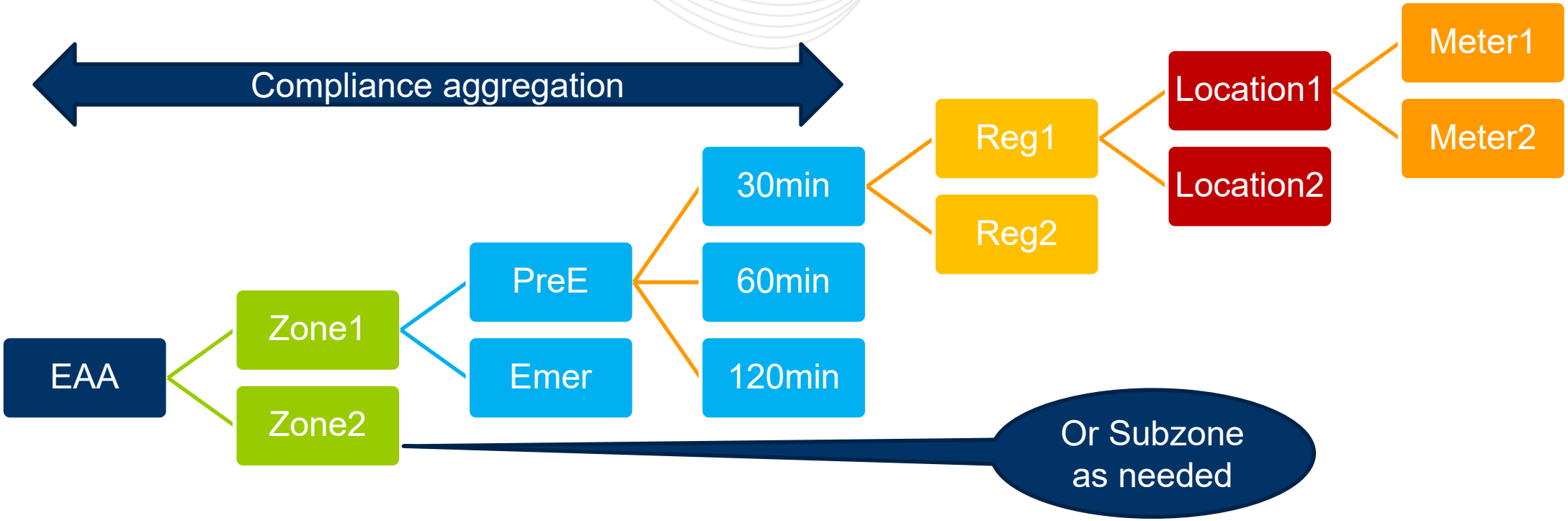
RPM resource CP amount is based the minimum of the aggregate Summer and Winter Nominated MW

Load Reductions

- Firm Service Level (FSL) – The hourly Load Reduction = Add Back = PLC – (Actual load * capacity loss factor)
  - CSPs must submit 24 hours of actual load data for the Load Management Event
- Guaranteed Load Drop (GLD) – The hourly Load Reduction = Add Back = min (CBL Reduction or PLC Reduction)
  - Lessor of:
    - (CBL – Load) * Loss Factor
    - (Firm Service Level Load Reduction, as determined above)
    - CSPs must submit 24 hours of actual load and comparison load data for the Load Management Event.

Rarely used

Aggregation for Performance is based on registration(s) dispatched and system condition



Allows CSP portfolio aggregation and dispatch flexibility

Test - Status Quo

- Current testing requirements for Load Management and Price Responsive Demand may not be reflective of actual capabilities

			Testing/Retesting Timing, Qualification and Notification Matrix							
		Who Schedules	How many	Qualifying FLEET (i.e. RPM Resource) Test score for Retest	Registration eligibility for Retest	Days of Week	Event Day Window	Test/Retest Duration	Notification(s)	Months
Status Quo	Test	CSP	unlimited			Non NERC Holiday Weekdays	HE11 - HE-20	1 Hr.	48 hours	Jun-Oct plus May
	Retest (Test >75%)	CSP	unlimited	>75%	Did not meet Nominated ICAP in Test	Non NERC Holiday Weekdays	HE11 - HE-20	1 Hr.	48 hours	Anytime after test

Test - Summary of Stakeholder Endorsed Changes

- Proposed revisions better mimic event-like conditions while minimizing unnecessary costs for customers

Testing/Retesting Timing, Qualification and Notification Matrix										
		Who Schedules	How many	Qualifying FLEET (i.e. RPM Resource) Test score for Retest	Registration eligibility for Retest	Days of Week	Event Day Window	Test/Retest Duration	Notification(s)	Months
Approved Proposal	Test	PJM	1			Non NERC Holiday Weekdays	HE12 - HE-18	2 Hrs.	3 Notices: 2 weeks ahead; Day ahead; Event Day - DR Hub	Jun-Oct for summer, Nov-Mar for Winter Apr/May reserved for Retesting
	Retest (Test >75%)	CSP	unlimited	>75%	Did not meet Nominated ICAP in Test	Non NERC Holiday Weekdays	HE12 - HE-18	2 Hrs.	48 hours	After test, in same season as test
	Retest (Test <75%)	PJM	1	<75%	Did not meet Nominated ICAP in Test	Non NERC Holiday Weekdays	HE12 - HE-18	2 Hrs.	Day Ahead	After test, in same season as test

Example – Proposed Test Cycle

I also know there will be no tests in any other zones. Get maintenance done there

I know test can only take place on 10 potential days

PJM notifies CSP of zones to be tested

PJM notifies CSP by 10am that test will be tomorrow

I know test is tomorrow and I have at least 13 hours to prepare

Check that my generator can start

July

		7/1/2019	7/2/2019	7/3/2019	7/4/2019	7/5/2019	7/6/2019	7/7/2019	7/8/2019	7/9/2019	7/10/2019	7/11/2019	7/12/2019	7/13/2019	7/14/2019	7/15/2019	7/16/2019	7/17/2019	7/18/2019	7/19/2019	7/20/2019	7/21/2019	7/22/2019	7/23/2019	7/24/2019	7/25/2019	7/26/2019	7/27/2019	7/28/2019	7/29/2019	7/30/2019	7/31/2019
Potential Test Days																X	X	X	X	X			X	X	X	X	X					
Actual Test Day																		X														

PJM notifies CSP with normal lead time

I know test will occur only between 11a-6p and I will be given my lead time

Each zone tested one day per year for only 2 hours.

Penalties

- Daily deficiency penalty
  - Do not have capability (registration nominated MWs) to meet commitment
  - Revenue rate plus higher of $20 or 20%
- Event Penalty
  - Load reduction do not meet commitment
  - ~$3,500 Mwh (based on net CONE)
- Test Penalty
  - Load reductions do not meet commitment
  - Revenue rate plus higher of $20 or 20%

Economic DR requirements

- Energy – dispatched when economic to participate based on offer and availability.
  - Hourly metering
  - Day ahead and/or real time energy market
  - Customer baseline (“CBL”) to determine reduction
  - Payment based on Locational Marginal Price for load reductions that occur specifically for the wholesale market (not part of normal operations)
- Synchronized Reserves – must reduce load within 10 minutes during reserve shortage
  - 1 minute metering
  - Penalty for non-compliance
- Regulation – real time load change (increase and decrease) based on real time system conditions
  - Real time telemetry required

PRD – quick summary

- Requirements
  - Commit in BRA or 3rd IA if forecast increases
  - Dynamic retail rates (linked to nodal LMP)
  - Supervisory Control
  - Not allowed to participate as economic DR
  - PRD hourly curve (load and LMP) by pnode
- No revenue – bill credit to LSE
- Penalties
  - Daily deficiency and event based on firm service level
  - Event penalties apply when: LMP>PRD curve AND Emergency event
- Testing same as DR
- Add Back - Based on emergency event and 5 CPs
- Customers may not also participate as DR (Emergency or Economic) or PSA

Peak Shaving Adjustment (PSA) – quick summary

- RERRA sponsored program evidenced by a tariff or an order.
  - specifies the program requirements to participate in PSA or indicates that peak shaving will occur.
- PSA plan includes
  - Months when curtailment(s) will occur
  - Number of hours for the curtailment
  - THI (Temperature-Humidity Index) Trigger for curtailment
  - MW value of the curtailment (this may vary by hour)
  - Historical hourly curtailment values (MW)
- Performance measured based on Customer Baseline (CBL)
- No revenue – lower zonal load forecast and less capacity procured
- Customers may not also participate as DR (Emergency or Economic) or PRD

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Break

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Panel Discussion

Consumers, DTE, I&M, MISO, PJM

MPSC

Michigan Public Service Commission

Panel Prompts

- Briefly outline your existing DR programs and how they are registered at the RTO. (LMR, EDR, DRR)
  - Which are *not* registered at the RTO?
  - How is this decision made?
  - How is each program's performance measured and why does the distinction matter?
    - Firm Service Level (FSL) "reduce to" or
    - Targeted Load Reduction "reduce by"

Panel Prompts

- How are you impacted by and how have you/planned to comply with changing RTO rules?
  - Availability
    - must offer actual availability year round
  - Testing
    - must conduct real power test OR be subject to 3x penalty if resources underperform
- Pros/Cons of real power test vs. simulation
  - Should customers be compensated for real power test?

Panel Prompts

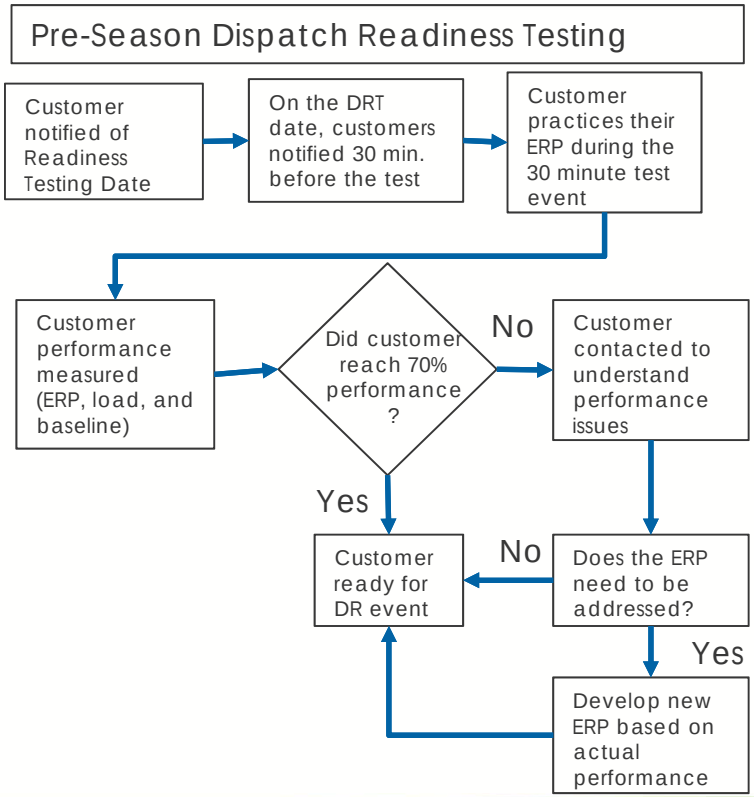
- How are you impacted by and what are your plans for compliance?
  - LMR accreditation
    - 10+ calls (demand response) for 100% capacity credit
    - 6 hour or less lead time (BTMG) for capacity credit
  - MISO's estimates a 936 MW impact to Zone 7 and 81MW impact to Zone 2
    - Does your company expect to be impacted?
    - Any thoughts from non-MPSC jurisdictional entities?

Panel Prompts

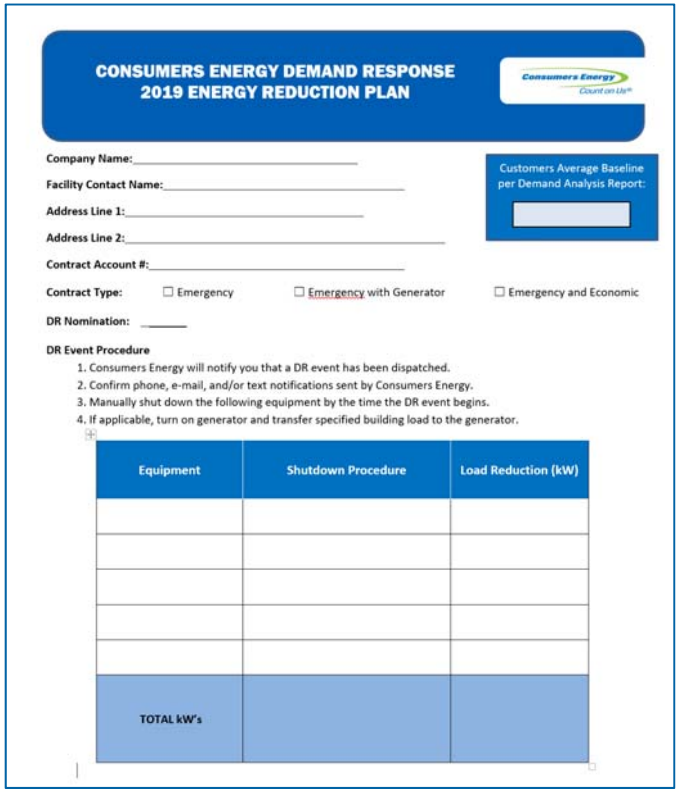
- What products or combination of products should DR providers offer to get the most value for their customers?
  - Should utilities be exploring other options besides LMRs?
  - Pros/Cons of adding more economic programs:
    - Either an economic product registered at the RTO
    - Or not registered at RTO, but dispatched by utility

Through optional Demand Response Testing (DRT) or evaluation of customer Energy Reduction Plans, CE monitors customer nominations

OPTION A



OPTION B



CONSUMERS ENERGY DEMAND RESPONSE
2019 ENERGY REDUCTION PLAN

Company Name:_____

Facility Contact Name:_____

Address Line 1:_____

Address Line 2:_____

Contract Account #:_____

Customers Average Baseline per Demand Analysis Report:

Contract Type: ☐ Emergency ☐ Emergency with Generator ☐ Emergency and Economic

DR Nomination: _____

DR Event Procedure

1. Consumers Energy will notify you that a DR event has been dispatched.
2. Confirm phone, e-mail, and/or text notifications sent by Consumers Energy.
3. Manually shut down the following equipment by the time the DR event begins.
4. If applicable, turn on generator and transfer specified building load to the generator.

Equipment	Shutdown Procedure	Load Reduction (kW)
TOTAL kW's		

*ERP = Emergency Reduction Plan

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Next Steps

Sneak peak of topics!

Draft Report/DR Aggregation

- April 28th
- Review components of Staff Report
  - Outline of report
  - Initial stakeholder feedback
  - Explain opportunities for informal and formal feedback as report develops
  - Final report due July 31, 2020

Draft Report/DR aggregation

- Update on DR aggregation
  - See outcomes of U-20348
  - MPSC process for reviewing ARC registrations, ARC DR in capacity demonstrations
  - Status of new/existing/planned ARC-utility partnerships
  - Ongoing changes to MISO tariff/BPMs

Next Steps

- Staff will send out the recording from today's meeting
  - Posted on DR group website
- Staff will finalize April 28th agenda and send out to listserv
- Staff may update the Solutions document
  - based on panel discussion today
  - If so, will repost and ask for stakeholder feedback
- Staff will develop a Staff report outline, based on content of these meetings

Questions, Comments, or Feedback?

Contact

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Adjourn