Demand Response
Customer Partnership Working Group

April 22, 2021
Web Conference
Agenda

• Issue of under-valuation of demand response performance

• Tariff compliant options addressing issue
  o Track 1 – exploring use of comparison/control group methodology
  o Track 2 – establishing process/criteria for approved use of load adjustment factors outside of the min/max caps for summer 2021

• Obtaining ISO approval for use of different min/max adjustment
  o Request/approval template and process
  o Conditions for approval
  o DR Business Practice Manual updates

• Additional data submission requirements
  o Use of MRI-S for new data submission
  o Example

• Next Steps
ISO supports three baseline types for DR supply side resource performance measurement

1. **Control Groups** – Establishes baseline of load patterns during curtailment event using non-dispatched customers with similar profiles

2. **Day Matching** – Estimates what electricity use would have been in absence of DR dispatch, using electricity use data on non-event but similar days

3. **Weather Matching** – Estimates what electricity use would have been in absence of dispatch during non-event days with most similar weather

   - Day and Weather matching baselines employ use of adjustment factors with caps
Integrated Demand Response Issue Statement

• Multiple DR providers have articulated significant under valuation of demand load reductions during the August 14-19 heat events attributed to current ISO day matching baselines use of adjustment caps.

• Communicated that actual energy deliveries were, on average greater, when compared against no adjustment cap, than energy deliveries calculated using the 40% day-of adjustment cap.

• This issue affects energy/capacity compensation across ISO (energy compensation), CPUC (QC valuation) and Utilities (DRAM contract evaluation).
Track 1: Explore and pilot expanded use of comparison/control group methodology

- Control groups were found to outperform day and weather matching baselines in the 2017 baseline working group study
  - DRPs lack a sufficiently large customer base to develop a control group
- Contracted with Recurve to conduct analysis on viability of accessing a control group by all DRPs and use of comparison methodology used in DOE pilot
- Begin summer 2021 with evaluation for long term solution
Track 2: Approve DRPs request for change to adjustment factor cap ratio

Allowing use of alternate load adjustment factor cap ratio from May – October 2021

- Tariff authority exists for DRPs to request use of a different load adjustment factor
- ISO approval required
  - Conditions for approval of request established and included in DR BPM
  - Eligible for May – October trade months
- Requests must be approved prior to beginning of month
  - Example: for use from June to Sept, approved prior to June 1
- Requires submission of additional data from DRPs using this option
  - Allows for further analysis on its impact over summer 2021
Demand Response
Business Practice Manual
New Business Process

- Demand Response Business Practice Manual
  - **NEW** Appendix G – Request for use of adjustment factors outside established min/max values
  - New request form & approval process
  - Where to access the request form
  - Additional data submittal requirements
Request Process
Request Process

• Request Form
  – Visit www.caiso.com – Participate – Demand Response and Load – Proxy demand resource agreements information request sheets – Load Cap Adjustment Request Form
  – Return completed form to PDR@caiso.com
  – ISO requires 5 Business days to approve
  – Requests received after the first of month will be approved to begin using the adjustment for the following Trade Month
  – CAISO will execute the Load Cap Adjustment Request Form through DocuSign
    • DocuSign document will be sent to Scheduling Coordinator and Demand Response provider for signature
  – NOTE: If you would like to be approved for the May Trade Month, please submit your request NO LATER THAN Friday, April 23 2021
New Data Submittal Requirements
Additional and new data submittals required as condition of approval to allow ISO to evaluate adjustment factors used during May - October

Four changes to DR meter monitoring data submission:

**For BASE measurement type:**
1. Provide measurement data for 4 hours before and 4 hours after the hour for which a bid is submitted. Currently, submission is required only for the hour there is a bid.
2. Include “Percent Residential” values for the data being submitted.

**For CBL measurement type:**
3. Provide data for the day of the DR event in addition to the data being provided for 90 days prior.
4. Include “Percent Residential” values for the data being submitted.
**Additional data submissions required for monitoring purposes**

**Additional hours for the BASE and CBL Measurement Types**

<table>
<thead>
<tr>
<th>Measurement Type</th>
<th>Adjusted/Unadjusted</th>
<th>Periods Covered</th>
</tr>
</thead>
</table>
| BASE             | Adjusted for intervals where TEE>0; Unadjusted for all other hours | Current requirement:  
  Calculated customer load baseline (CLB) values used to derive DREM.  
  BASE data represents the customer load baseline used to calculate the DREM attributed to the pure load reduction only.  
  BASE data is submitted for trade dates when the resource/registration is being actively bid into the market for the hours in which it is bid.  
  New requirement:  
  In addition to the above BASE data submittal time frames, data will be required for 4 hours preceding and 4 hours after a demand response event if they fall outside the hours in which the resource/registration is being actively bidding into the market.  
  Data Granularity: Hourly  
  By resource ID |
| CBL              | N/A                 | Current requirement:  
  Underlying load data used in the customer load baseline calculation  
  90 days of historical data prior to the day of the event is required.  
  New requirement:  
  Provide data for the day of the DR event in addition to the data being provided for 90 days prior.  
  Data Granularity: Hourly  
  By resource ID |
New data submissions required

Applicable to resource IDs using the Day Matching Combined performance methodology.

- Submission of, hour by hour, the percent of BASE (unadjusted baseline) and CBL (intra-day load) that is attributed to the residential service accounts within the aggregation.

<table>
<thead>
<tr>
<th>Measurement Type</th>
<th>% Residential</th>
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<tbody>
<tr>
<td>BASE</td>
<td>Data Granularity: Hourly</td>
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<tr>
<td>CBL</td>
<td>Data Granularity: Hourly</td>
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### Additional Data Requirements

#### Example:

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<tr>
<th>Type of event</th>
<th>Res ID</th>
<th>Trade Date</th>
<th>Trade Hour</th>
<th>Measurement Type</th>
<th>Meas Qty (MW)</th>
<th>Percent Residential</th>
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<tr>
<td>BASE Scenario</td>
<td>PDR_ResA</td>
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<td>12</td>
<td>BASE</td>
<td>10</td>
<td>20</td>
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<td>CBL Scenario</td>
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<td>PDE_ResB</td>
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<td>to</td>
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<td>DR Event</td>
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Next Steps

• This effort is being tracked under the Market Enhancements for 2021 Summer Readiness initiative

• Please attend the Technical User Group (TUG) and Release User Group (RUG) calls for further information on:
  – New Technical Specifications and Artifacts availability
  – Deployment timelines
  – Link to the CAISO Calendar: http://www.caiso.com/Pages/Calendar.aspx?IsDlg=true

• Please submit questions through our Customer Inquiry, Dispute & Information (CIDI) ticket process, or to initiativecomments@caiso.com, by end of day May 6