

Demand Response Compliance

Demand Response Working Group
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The purpose of this presentation is to describe the current compliance structure for resources in the DR3 program and opportunities for improvement as we develop Market Rules to bring capacity-based demand response into the IESO-administered markets.

- Step 1: Standby Notification
- Step 2: Confirmation
- Step 3: Activation Notice
- Step 4: Demand Response
- Step 5: Reporting Data
- Settlement Calculations

- Step 1: The DR participant receives a standby notification in the day-ahead window or day-at-hand window resulting from the DR trigger
 - Day-ahead by 5pm EST, day-at-hand by 7am EST
- Step 2: After receiving the standby notification, the DR participant has one hour to confirm the MW amount and time duration they will reduce load
 - If no response from participant, they are deemed to have confirmed

- Step 3: After the standby confirmation is sent, an activation notice may be sent 2.5 hours prior to start of activation time for the hours of availability
- Step 4: The DR participant will respond to activation and reduce demand consumption

- Step 5: The DR participant will submit weekly meter data by 3pm EST of the first business day of the following week (typically Monday).
 - Revisions to data, if any, must be submitted by 3pm on the last business day of the next month
 - Aggregators must also submit data for each of their contributors by 3pm of the last business day of the next month

DR participants will receive the following payments for their role in demand response:



- Participants will receive a monthly Availability Payment for each Settlement Account for being available to reduce consumption

Availability Payment:

Monthly contracted MW X Availability Rate

- Availability Over-Delivery Payment will be paid to participants who are available to “over-deliver” MW with respect to an Open Standby Notification by confirmed MW and/or confirmed hours relative to monthly contracted MW
 - Payments based on confirmed MW not actual curtailed MW
 - Limited to lesser of monthly contracted MW plus 15 MW or 130% of monthly contracted MW

- Utilization Payment:

$$\boxed{(\text{Actual Activated MWh}) \times (\text{Utilization Rate}) - \text{Net Generation Recapture}}$$

- Actual Activated MWh will not exceed:
 - (i) product of activation MW X Activation Period, plus
 - (ii) lesser of additional 15% of Activation MW per hour of the Activation Period, or 15MWh per hour of the Activation Period
- Net Generation Recapture is HOEP X Net Electricity Generated

- Performance Set-Offs are penalty charges levied when participants fail to meet their obligations in the DR3 program
- Performance Set-Offs include:
 - Availability Set-Offs
 - Planned Non-Performance Availability Set-Offs
 - Utilization Set-Offs
 - Meter Data Set-Offs

- Three types of Availability Set-Offs:
 - Reliability Set-Off
 - If reliability rate during any 5-min interval of an activation period is < 85% then participant charged an availability reliability set-off for the entire hour
 - Reliability Rate = (Actual Activated MWh per Interval) / (Activation MW * 1/12)
 - Or if participant is “Not Fully Available for Curtailment”
 - Timely Confirmation Set-Off
 - Regardless of activation, if a confirmation is required but is delivered late or not at all, this set-off is charged
 - Low confirmation
 - Applies when confirmed MW is < 95% of monthly contracted MW
- Availability Set-Off used for monthly payment calculation is the highest of the three types

- DR3 participants may have the option to elect planned non-performance events on a single-day or extended period basis
 - akin to outages in the energy market
- Performance Set-Offs will be charged to adjust compensation due to the inability to comply with activation notices
- Forced outages such as Force Majeure would be subject to a Planned Non-Performance Availability Set-Off

- Three types of Utilization Set-Offs:
 - Reliability
 - Charged if reliability rate calculation is $< 85\%$ for any 5-min interval of an activation
 - Timely Confirmation
 - Charged when confirmation to standby notification is late or doesn't arrive
 - Low Confirmation
 - Charged when confirmed MW is less than monthly contracted MW
- The highest Utilization Set-Off charge of the three types is used in calculating monthly payment

- Meter Data Set-Offs are charged when participant does not submit complete set of weekly data by 3pm of the first business day of the following week
- Starts at 20% of prorated weekly availability payment for first week to 100% by fourth week

- In addition to Performance Set-Offs, DR3 participants are also subject to penalties for Performance Breaches
- Performance Breach defined as:
 - 3rd Material Non-Performance Event for that Settlement Account in a given calendar year
 - Material non-performance events occur during an activation period if:
 - $(\text{Confirmed MW}) / (\text{Monthly Contracted MW}) < 75\%$
 - $(\text{Actual Activated MWh}) / (\text{Activated MW}) < 75\%$
 - » If Aggregator's Summer Monthly Contracted MW < 10MW the above 75% replaced with 60%
 - Aggregator doesn't send out sufficient activations to their contributors

- Performance Breach *also* occurs when:
 - Calendar YTD:
 $(\text{Actual Activated MWh}) / (\text{Activation MW over all Confirmed Hours}) < 90\%$, or
 $(\text{Confirmed MW}) / (\text{Monthly Contracted MW}) < 90\%$
 - Failure to provide weekly data for settlement account by 4th week after deadline
- Penalties for Performance Breaches
 - Range from one month's availability payment for first breach to termination of schedules and owing the OPA an early termination payment

- As we create Market Rules which will bring capacity-based demand response resources into the IESO-administered markets, there are areas in which we think improvements can be made for DR resources operating in the market
- With respect to compliance, these areas include:
 - Compliance to dispatch
 - Meter data reporting

- Compliance with DR3 currently evaluated at the Settlement Account level
- Investigating evaluating demand response compliance closer to the way resources are dispatched
 - Evaluation of participant response aggregated to the zonal level instead of at individual Settlement Account level

- Participants submit meter data through email
 - Looking at creating upload page to allow for more secure transmission of meter data
- Participants submit meter data with incomplete/inaccurate data in order to adhere to the V1 data submission deadline and then submit complete revised (V2) data by the revision deadline
 - Why is this happening? Do participants need more time to submit accurate information by the first deadline?