



Energy Storage and Distributed Energy Resources Phase 2

Customer Partnership Group

August 14, 2018

1 p.m.– 3 p.m. (Pacific Standard Time)

Agenda

Item

Project Schedule Update

External Training

Market Simulation Preparation

Production Preparation

DRRS Registration for Control Group

Questions Received

Fall 2018 – ESDER Phase 2 - Project Schedule

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	Jul 26, 2017	✓
External BRS	Post External BRS	Oct 17, 2017	✓
	Post Revised External BRS	Mar 01, 2018	✓
Config Guides	Settlements Config Guides	May 18, 2018	✓
Tech Spec	Publish ISO Interface Spec (Tech spec)	May 21, 2018	✓
Tariff	Post Updated Draft Tariff (based on feedback)	Apr 09, 2018	✓
	Post Draft Tariff	Nov 17, 2017	✓
	File Tariff with FERC	Aug 17, 2018	
CPG	Next CPG Meeting	Aug 14, 2018	
BPMs	Post Draft BPM changes	Jun 28, 2018	✓
External Training	Deliver external training	Aug 07, 2018	✓
Production Activation	ESDER Phase 2 - DRRS	Oct 01, 2018	
	ESDER Phase 2 Production Deployment	Nov 01, 2018	

External Training Overview


- Training webinar conducted: August 7, 2018
- Slides and webcast are posted to the ISO Learning Center, and also available at the following direct links:
 - http://www.caiso.com/Documents/EnergyStorage_DistributedEnergyResources_Phase2.pdf
 - <https://youtu.be/jUggkWz3Pgo>


Market Simulation Preparation


- Structured Scenarios
 - <http://www.caiso.com/Documents/StructuredScenarios-EnergyStorageandDistributedEnergyResourcesPhase2.pdf>
- Performance Evaluation Methodology Elections
 - Email DRPID and election to PDR@caiso.com
 - Elections due 8/13/2018
- Application Access
 - DRRS
 - MRIS


Production Preparation


- Performance Evaluation Methodology (PEM) forms due no later than **September 04, 2018**
- http://www.caiso.com/informed/Pages/StakeholderProcesses/EnergyStorage_DistributedEnergyResources.aspx


⊖ Energy storage and distributed energy resources phase 2 implementation customer partnership group 
Conference calls to discuss implementation of demand response current changes associated with phase 2 of the Energy Storage and Distributed Energy Resources initiative.










 Energy storage and distributed energy resources initiative page

 Business Requirements Specification v 1.1 - Energy Storage and Distributed Energy Resources Phase 2
3/02/2018 08:52

⊕ Web conferences 2018 

⊕ Web conferences 2017 

⊖ Draft baseline methodology templates 
Please submit completed templates to PDR@caiso.com

 Performance Methodology Form - Cover Page	6/29/2018 16:36
 Performance Methodology Form - Control Group	6/29/2018 16:36
 Performance Methodology Form - Day Matching 10-in-10 Non-Residential-Only	6/29/2018 16:36
 Performance Methodology Form - Day Matching 5-in-10 Residential-Only	6/29/2018 16:36
 Performance Methodology Form - Day Matching Combined	6/29/2018 16:36
 Performance Methodology Form - Meter Generator Output	6/29/2018 16:36
 Performance Methodology Form - Meter Generator Output With 10-in-10	6/29/2018 16:36
 Performance Methodology Form - Statistical Sampling Template Attachment	6/29/2018 16:36
 Performance Methodology Form - Weather Matching	6/29/2018 16:36

Production Preparation Continued

- Submit required cover page & PEM form
 - Required to be approved for at least 1 methodology, but can be approved for all.
 - Submit to PDR@CAISO.com
- Approval and digital signature process will be complete by 10/1/2018
- All current registrations will be end dated 10/31/2018
- Updated DRRS will be available 10/15/2018
 - Approved PEM will be visible
 - Begin end dating current registrations with 10/31/2018
 - Begin re-registering current registrations with 11/1/2018

SubLAP & DLAP for Registrations with Control Group Baseline Method

- When creating a registration with Control Group as the baseline method, SubLAP is optional for the registration as the control group locations can be in multiple SubLAPs.
- An XSD change is being made to the DRRSRegistrationData XSD to make the SubLAP element optional at the registration level. It is currently mandatory.
- Since SubLAP is required to derive the DLAP and since registration with Control Group baseline would not have a SubLAP specified, it is not possible to derive the DLAP for such registrations. The DRP is **required** to submit the DLAP for such registrations.

DRRS – Registrations with Control Group Baseline Method

- Locations designated as CG can span across multiple subLAPs
- The subLAP for these registrations should be specified in the API request and cannot be provided as “null”
- A valid DLAP can be submitted for the registration from the API. From the UI, the user is allowed to choose the DLAP from all the available DLAPs based on the subLAP selected.
- A new optional element “locationGroupType” is added to the XSD with valid values of “CG” (control group location) and “TG” (treatment group location).
- The subLAP of all locations flagged as TG should be the same and is required to match the subLAP for the registration.
- There should be a minimum of 150 control group locations and at least one treatment group location
- A treatment group location is not allowed to participate in a different registration with overlapping timeframe
- Control group location can participate in a different control group baseline registration with overlapping timeframe as long as it is marked as a control group location in the other registration as well.

Questions Received

Q: How should the baseline adjustment work if the pre-Event adjustment period falls in the previous day or the post-Event adjustment falls in the following day? Options:

- Perform no adjustment based on the pre-event period (which seems to be the current DRS behavior); or
- Perform adjustment based on any portion of the adjustment period that falls on the same day. For example, for 10-in-10, if the event starts at 3 AM, use a two- (instead of three-) hour period from 12:00 AM to 2:00 AM. If the whole pre-event adjustment period is in the previous day, **then perform no adjustment**, based on this period.

During the previous CPG, **stakeholders did not prefer having no adjustment**; Both options consider no adjustment

- CAISO requires consistent treatment for pre-/post-adjustment
- Based on tariff language for ten in ten methodology
 - Use hours in the “Trading Day”
- Tariff language for five in ten methodology provides for option
 - Use hours preceding or following the “Trade Interval”

Questions Received – additional context

Ten in Ten Adjustment language in tariff:

*“multiplying the amount calculated pursuant to Section 4.13.4.1(b) by a percentage equal to the ratio of (i) the average load of the Proxy Demand Resource or Reliability Demand Response Resource **during the second, third, and fourth hours preceding the hour of the Trading Day on which the Proxy Demand Resource or Reliability Demand Response Resource provided the Demand Response Services** during the Demand Response Event to (ii) the average load of the Proxy Demand Resource or Reliability Demand Response Resource during the same second, third, and fourth hours of the calendar days for which the Meter Data has been collected pursuant to Section 4.13.4.1(a).”*

Five in Ten Adjustment language in tariff:

*“calculated pursuant to Section 4.13.4.4(b) by a percentage equal to the ratio of: (i) the average Demand of Proxy Demand Resource or Reliability Demand Response Resource during (a) the period from four to two hours **preceding the Trading Intervals**, and (b) the period from two to four hours **following the Trading Intervals** on which the Proxy Demand Resource or Reliability Demand Response Resource provided the Demand Response Services during the Demand Response Event to.....”*

Questions Received

Q: When picking 5 out of 10 days based on the "highest totalized load during the hours when the Demand Response Services were provided," should the periods between awards be excluded? I.e., if a resource has two non-contiguous awards on the same day, should we only be looking at the award periods, or the period between the start of the first award and the end of the last award?

A: Yes, must only be looking at the awarded hours.

Five-in-Ten Methodology Tariff Language:

*"From the target days, the five (5) business days and three (3) non-business days **with the highest totalized load during the hours when the Demand Response Services were provided will be used. If these targets cannot be met,** ...calendar days on which the Proxy Demand Resource was subject to an Outage or previously provided Demand Response Services, and for which the amount **of totalized load was highest during the hours when the Demand Response Services were provided** in the forty-five (45) calendar days prior to the Trading Day."*

Questions Received

- Stakeholders prefer taking the **Hourly** totalized load for both awards— i.e., take the BAWG highest totalized load during the hour(s) in which the Event(s) occurred and utilize these hours for the 10-10 (but only if there is not enough non-Event days—essentially, this is the same language for the normal 5-10)
- Ohm believes changing the tariff for 10-10 to resemble what is now in place for 5-10 makes sense

Ten-in-Ten Methodology Tariff Language is same **If targets are not met,** “using days when DR services were provided “*was subject to an Outage as described in the Business Practice Manual or previously provided Demand Response Services, and for which the amount of totalized load was highest during the hours when the Demand Response Services were provided in the forty-five (45) calendar days prior to the Trading Day.*”

Response to Revised Draft Tariff Language Suggested Changes and Comments

- Comments were received from PG&E and OhmConnect

- CAISO Response Review

Revised Draft Tariff Language Comments

- 30.6.3 Net Benefits Test – PG&E recommended edit and comment
- Change not accepted
 - NBT provides a price threshold not for bids but for application of settlement adjustment.
 - Yes, “settlement adjustment” refers to Default load adjustment
- 11.6.1 why they are collecting “energy data” (as opposed to just the underlying consumption data) for monitoring?
 - Yes, we are requesting that both the underlying consumption be submitted (for monitoring purposes) AND the SC calculated DR energy measurement (energy data) which will be used for settlements.
- 11.6.1 when will it be applicable for SCs to submit the Customer Load Baseline? Will this requirement only be for intervals during which an event occurred?
- Clarification made to language
 - Submittal can be made on a daily basis or in bulk once an event occurs.
 - For monitoring purposes, this data will be submitted for “all hourly intervals for the calendar days for which the Meter Data was collected to develop the Customer Load Baselines”

Revised Draft Tariff Language Comments

- 11.6.1 Is this the appropriate term? (i.e., we want the raw data).
Background: BRS BR Q083 Doesn't seem quite right. It's "Baseline Load Data" in BRS. That is, historical consumption, not the calculated counterfactual "Customer Load Baseline".
 - New Tariff Language
"For monitoring, compliance, and audit purposes, Scheduling Coordinators must submit in the Settlement Quality Meter Data Systems the Customer Load Baseline, as applicable, and the actual underlying consumption or Energy during all hourly intervals for the calendar days for which the Meter Data was collected to develop the Customer Load Baselines pursuant to Section 4.13.4."
 - Customer Load Baseline (in the case of control group methodology is requested) in addition to the actual underlying consumption or Energy.
- 11.6.1 In the last CPG, CASIO said they would ignore data submitted when the total expected energy did not exceed zero. Please clarify
 - Correct, the statement that "Resources will only be settled in intervals where their total expected energy is above zero" covers this statement made in the CPG. Even if data is submitted, it will not be used in settlement.

Revised Draft Tariff Language Comments

- 4.13.4, 4.13.4.1 slight grammatical changes requested

- Changes accepted

- 4.13.4.3 Reference to Demand Response System

- Change not accepted - Defined term

Demand Response System: A collective name for a set of functions of a CAISO application used to collect, approve, and report on information and measurement data for Proxy Demand Resources and Reliability Demand Response Resources.

- 4.13.4.3 Could CAISO clarify what is applicable for the BPM and DR Users Guide? For example, will CAISO take the criteria from the BAWG and put it in the BPM?

- Yes, the BPM and/or the DR User guide will be used to provide the detail needed for participants to understand the requirements in developing baselines and using the available performance methodologies. This detail will not be included in the tariff.
- Anything effecting rates, terms and conditions for participation will be included.

Revised Draft Tariff Language Comments

- 4.13.4.3 Could you edit this to say, “but not dispatched”? It’s not that they are not responding, but rather that they are not dispatched.
- Change not accepted, it is accurate to say they are “not responding to CAISO dispatch” as the CAISO has no visibility or indication of what specific service accounts are requested to respond to an CAISO dispatch. The actual dispatch is coming from DRP to individual service accounts.
- 4.13.4.3 (a) Would specifying the number of end users be more relevant for the BPM rather than the tariff? PG&E recommends removing this sentence.
- Change not accepted, it is required to be in the tariff.
- 4.13.4.3 (b) How is CAISO defining an event? It’s unclear if “event” is changing to also include ramping capability and if TEE is settled, this could be reintroducing what “DR Event” means..
- Demand Response Event is a defined term.
 - A time period, deadline, and transition during which a Proxy Demand Resource or Reliability Demand Response Resource provides Demand Response Services.
 - Expected Energy is also a defined term provides clarity of what is “expected to be generated”

Revised Draft Tariff Language Comments

- 4.13.4.4 (c), (ii) It is our understanding from the Nexant proposal that both the 5-in-10 and weather matching methodology will employ a two-hour buffer.
- Suggest this modification (to adjustment factor) to align the tariff with the Nexant proposal.
- Correct, change made in this section along with 4.13.5 to reflect adjustment hour buffer AND adjustment factor max/min percentages accurately.

(i) the average Demand of Proxy Demand Resource or Reliability Demand Response Resource during (a) the **period from four to** two hours preceding the Trading Intervals, and (b) the **period from two to four hours** following the Trading Intervals on which the Proxy Demand Resource or Reliability Demand Response Resource provided the Demand Response Services during the Demand Response Event to

(ii) the average Demand of the Proxy Demand Resource or Reliability Demand Response Resource during (a) the **period from four to** two hours preceding the Trading Intervals, and (b) the **period from two to four hours** following the Trading Intervals for which Meter Data was collected pursuant to Section 4.13.4.4(a).

To provide maximum adjustment factor **of 1.4**, the adjusted percentage can have a maximum value of one hundred-forty (140) percent and a minimum value of **seventy-one (71)** percent.

Revised Draft Tariff Language Comments

- 4.13.4.4 Additional change suggested based on Nexant proposal (for Day Matching Baseline 5 of 10) for which there were different adjustment factors suggested for Weekday and Weekend Baseline development

- Change not accepted to reflect different adjustment factors. Final BAWG proposal kept one adjustment factor for all baselines and did not differentiate between Weekday and Weekend, for simplicity/consistency with 10 in 10.
 - There is an error in a couple of the Nexant proposal tables.
 - Tariff will reflect the Table 3-1: Recommended baseline for CAISO Settlement that was in the Final Nexant proposal and NOT the one in subsequent tables 3-5 and 3-6 which were not changed to accurately reflect the recommendations in table 3-1.
 - Notes will be added in the report to reflect, and memorialize, that tables 3-5 and 3-6 recommendations were not accepted with respect to the different adjustment factors for weekday/weekend.

CAISO Clarification

CAISO initiated revisions for clarification:

- Only data submittal requirement for MGO performance methodology will be the DREM.
- It is only the resources utilizing day matching, weather matching and control group methodologies submitting baseline data for monitoring. (this includes MGO +day matching)
- Reference to 90 days genericized so that it references the data for the specific CLB lookback period which will be referenced in the BPM for metering.

“For monitoring, compliance, and audit purposes, Scheduling Coordinators must submit in the Settlement Quality Meter Data Systems the Customer Load Baseline, as applicable, and the actual underlying consumption or Energy during all hourly intervals for the calendar days for which the Meter Data was collected to develop the Customer Load Baselines pursuant to Section 4.13.4.”



Questions?

Next Steps

- Please submit further questions through the ISO CIDI Ticket process
- Customer Partnership Groups webpage available at: <http://www.caiso.com/informed/Pages/MeetingsEvents/CustomerPartnershipGroups/Default.aspx>