



California ISO

Energy Storage and Distributed Energy Resources Phase 2

Customer Partnership Group

April 25, 2018

10 a.m.– 12 p.m. (PDT)

Agenda

Item

Project Schedule Update

External Training Overview

DRS Access Timeline

Questions Received and ISO Answers

Next Steps

Fall 2018 – ESDER Phase 2

Project Info	Details/Date
Business Process Changes	<ul style="list-style-type: none"> • Develop Infrastructure (DI) (80001) • Manage Market & Reliability Data & Modeling (MMR) (80004) • Manage Operations Support & Settlements (MOS) (80007) • Support Business Services (SBS) (80009) • Other

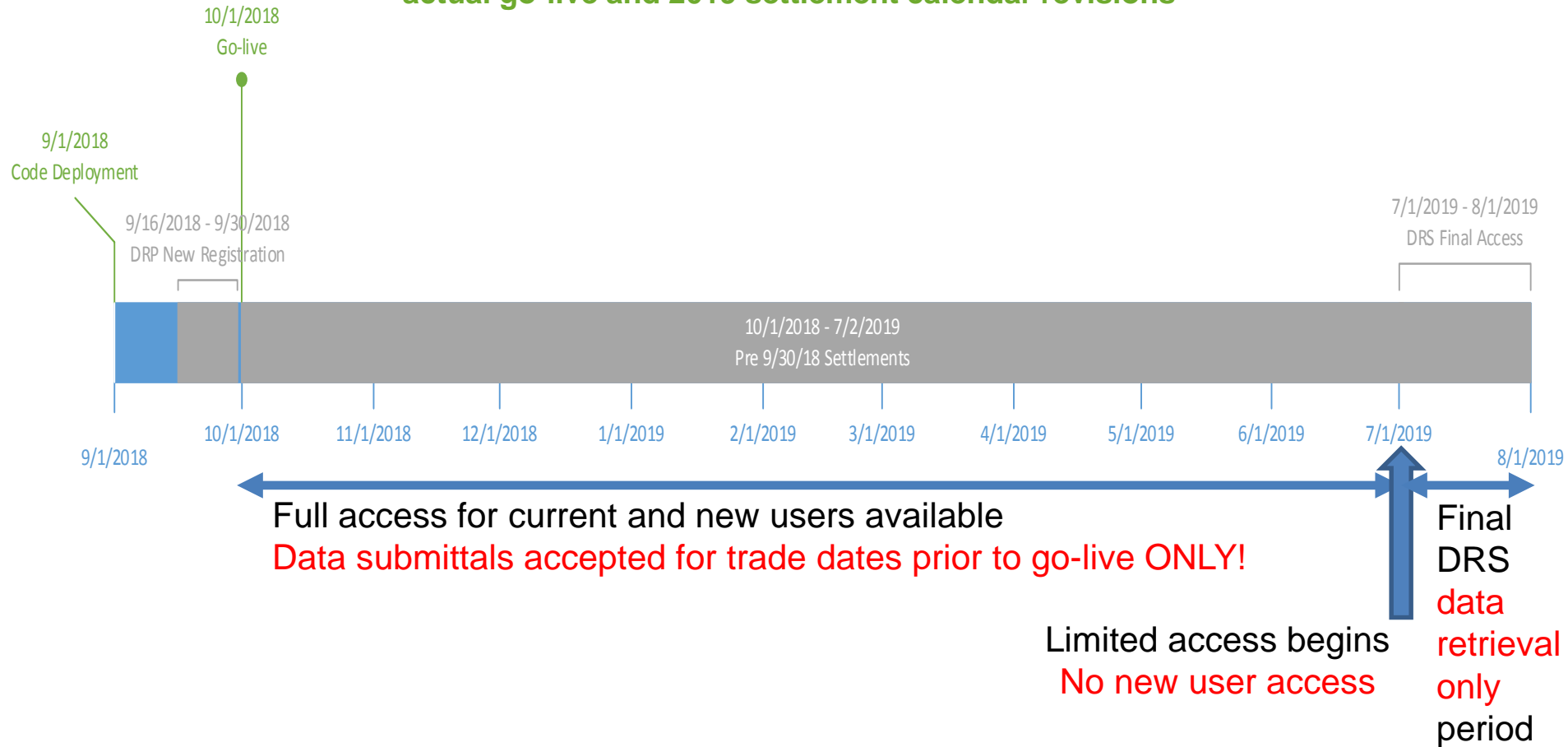
Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	Jul 26, 2017	✓
External BRS	Post External BRS	Oct 17, 2017	✓
	Post Revised External BRS	Mar 01, 2018	✓
Tariff	Post Draft Tariff	Nov 17, 2017	✓
	Post Updated Draft Tariff (based on feedback)	Apr 09, 2018	✓
CPG	Next CPG Meeting	Apr 25, 2018	
Tech Spec	Publish ISO Interface Spec (Tech spec)	May 18, 2018	
Config Guides	Settlements Config Guides	May 18, 2018	
BPMs	Post Draft BPM changes	Jun 04, 2018	
External Training	Deliver External Training	Jul 11, 2018	
Market Sim	Market Sim Window	Jul 17, 2018 - Aug 31, 2018	
Production Activation	ESDER Phase 2	Oct 01, 2018	

External Training Overview

- Process Changes
 - New Baseline Approval Process and Timeline
 - SCs/DRPs Calculate Baselines & Performance (DREM)
 - Ancillary Service and Demand Response
- Application Changes
 - Decommissioning DRS, Parallel Operations, Transition Timeframe
 - Changes to DRRS, Selecting New Baselines
 - Submitting Baseline and DREM into MRIS
- Settlements Changes
 - Charge Code Configuration Changes
 - Net Benefits Test
- Business Process Manuals
 - Affected Business Process Manuals

DRS Retirement Application Access Timeline

***Dates are estimated and subject to change based on actual go-live and 2019 settlement calendar revisions**



Questions Received

- Q: Will “events” be calculated at the 5 minute level and should the “10 in 10”, “5 in 10”, etc. be 5 minute?

Example: if HE17 INT7 is the only interval dispatched in a given hour, should this 5 minute interval be the only interval selected when pulling prior 5 or 10 non-event day data?

A: Any event interval on a given day would remove that day for consideration in the baseline calculation.

Events will be at the 5 minute level and established when the DREM needs to be submitted. However, the baseline is calculated hourly to establish the 5 Minute DREM quantities.

In your example, the answer is No. You would look at the hour in which the interval was dispatched (HE 17)

Questions Received

- Q: In the scenario where a resource has any combination of DA, FMM, and RTD energy awards with non-zero values that net to zero Total Expected Energy (TEE), the ISO expects that no performance data will be submitted to DRS. Is it a problem if meter data and performance data is submitted regardless? Should we create logic that identifies an event and only submit for those intervals?

A: Yes that is correct. If the TEE is 0 MW, the performance meter should be 0. If the performance meter data is non-zero, we will not settle the deviation energy as UIE. The ISO will have logic to not settle instances of zero TEE and non-zero DREM, however, it would be a good business practice to build in logic on your end.

Questions Received

- Q: In today's world, if the TEE is zero, DRS does not calculate performance and this hour is not considered an "event". How does ramping energy factor into this? We've seen cases in current implementation where it appears that ramping energy appears to have triggered DRS performance calculations and UIE settlement.

Example: ABC_1_XXX, 7/17/2017, HE20

A: Correct. If the TEE is 0 for a given 5-minute interval, we will not consider this as an "event". Currently, the resource can have both Ramping Energy Deviation (RED) and Standard Ramping Energy (SRE) which net to 0 MW. RED energy is considered as instructed energy and will get paid/charged at the RTD LMP in CC6470. When the performance meter is 0 MW, the over or under deviation from the dispatch will be considered as uninstructed energy and will get a charge/paid back at the RTD LMP in CC6475. The net of 6470 and 6475 will be \$0.00 since both charge code use the RTD LMP. So, with ESDER2, we will have the RED settled in CC6470 (RTD IIE Settlement)

Questions Received

- Q: If there is an event, and the performance data shows over-performance (more curtailment than expected), the resource will be paid at the 5 minute LMP for all performance in excess of TEE?

A: Yes if there is an event (TEE of Non-Zero), and if the performance meter is more than TEE, the resource will get UIE payment for the deviation quantity.

- Example 1 : DA award of 1MW and delivered energy is 1.5MWs, the resource would be paid at the 5 minute LMP for the .5MWs as positive UIE

A: since the TEE is non-zero, it is considered an “event” and .5MW will be settled as UIE from their dispatch of 1MW

- Example 2: The unit has TEE of zero, but performance data indicates that a 1.5MWs of curtailment occurred, the unit would receive no UIE payment.

A: Correct, when the TEE is 0 MW, there will be no settlement because the resource did not have an award/dispatch is not expected to respond. If a DREM of 1.5 MW is submitted, in error, it would be ignored by settlement. With ESDER2, for example 2 there will be NO UIE Settlement.

Questions Received

- Q: Given the problems with the RT dispatch for PDR with Pmin of zero, is the ISO considering some sort of mitigation to avoid considering these “phantom” 5 minute dispatches as events?

A: ESDER3 is addressing this issue with extension of 15 minute/hourly RT bidding options to PDRs. Until ESDER3 is implementation, the ISO will continue to view these as economic dispatches that are not followed by the resource and has no plans introduce a means to mitigate them outside of available RT bidding functionality.

- Q: Business Requirement ID ESDER2-BRQ49 says that only approved baseline methods will be selectable when creating registrations. Would DRPs/SCs have the ability to "pre-approve" multiple baseline methods

A: Yes, the ISO can pre-approve you for multiple baseline methods.

Questions Received

- Q: Business Requirement ID ESDER2-BRQ053 describes how a location within a registration can be identified as part of a treatment group or control group. Will this include the ability to sub-identify which specific control group a location will be a part of? As an example, locations for control groups could be from multiple SLAPs, and DRPs/SCs may wish to build several control groups that each apply to a separate set of SLAPs or resources. Furthermore, could CAISO please clarify whether a single control group can include locations for different SLAPs or LSEs?

A: When creating a registration, locations will be identified as being in the registrations Control Group (CG) or Treatment Group (TG). A location identified as CG within a registration can be utilized in multiple registrations as CG but cannot be a TG in any registration. Within a registration, the CG locations identified can be from multiple sublaps. Within a registration location(s) identified as TG must all be within 1 sublap.

Questions Received

- Q: Business Requirement ID ESDER2-BRQ055 states that measurement data must be uploaded at a five-minute granularity. How should DRPs/SCs treat aggregate meter data that has a mix of 5-minute, 15-minute, and/or hourly interval data for their locations in a given resource?

A: For each of the baseline methodologies proposed, an hourly baseline is first developed then pro-rated to create a 5-minute baseline from which the 5-minute interval actual load, measured during the event, is subtracted. Therefore, meter data used to create the baseline would be developed using a combined hourly granularity. Reference Materials:

ESDER 2 FINAL Draft Proposal

- http://www.caiso.com/Documents/DraftFinalProposal-EnergyStorage_DistributedEnergyResourcesPhase2.pdf

Demand Response User Guide (begins on page 160)

- <http://www.caiso.com/Documents/DemandResponseUserGuide.pdf>

Questions Received

ESDER 2 FINAL Draft Proposal:

“The BAWG recognizes that the proposed performance calculation results provided to the CAISO as SQMD must be in intervals of five minutes when a PDR or RDRR offers real-time or ancillary services (non-spin and spinning reserve) and has concurred with CAISO’s proposal on how a 5-minute performance measurement could be derived.

Therefore, it is recommending that the **current method used by the CAISO**, in conjunction with the 10 in 10 customer load baseline methodology, **be applied when using any of the BAWG proposed methodologies**. In summary, to achieve a 5-minute DR Energy Measurement, an hourly baseline is pro-rated to create a 5-minute baseline from which the 5-minute interval actual load, measured during the event, is subtracted. The CAISO would maintain its current requirement that baselines, and measured load during the event, be derived using, at maximum, a 15-minute interval load measurement when the PDR or RDRR is participating in real-time or for PDR ancillary service markets participation.”

Questions Received

- Q: Could the CAISO please clarify the purpose of the Baseline Methodology Templates?

A: The baseline method templates are utilized to approve the DRP/SCME use of baseline methodologies defined in the tariff. These template are used to meet the SQMD Plan requirement (CAISO Tariff 10.3.7.1).

- Our understanding is that the intent of these Templates is to facilitate the approval of a baseline methodology for a given DRP's resource.

A: The template facilitates the approval for a DRP to utilize the baseline for any resource it registers. It is not necessary to submit a template for each resource.

- In the event that a DRP proposes baseline methodology that deviates from methodologies approved via the CAISO tariff or the User Guide would CAISO automatically reject the Baseline Methodology Template?

A: Yes

- And, as a separate process question, would it be possible to apply a single template to a set of resources (to avoid sending duplicate copies)?

A: Approval is not needed per resource. Template is used for DRP to gain approval for use of methodology for any resource.



Questions?

Next Steps

- Please submit further questions or comments to:

Elaine Siegel at esiegel@caiso.com

or

initiativecomments@caiso.com

- Customer Partnership Groups webpage available at:
<http://www.caiso.com/informed/Pages/MeetingsEvents/CustomerPartnershipGroups/Default.aspx>