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Business Requirements Specification

Energy Storage and Distributed Energy Resources Phase 3 (ESDER 3)

Document Version: 1.2

Current Version Date: 3/18/2019

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Revision History

Date	Version	Description
02/01/2019	1.0	Initial document release
02/22/2019	1.1	Updates to Terms: • Bid Options - Now Bid Dispatchable • Hourly Option – Now 60-Minute Option Section 6.1 Revised: • BRQ001 • BRQ071 • BRQ075 Section 6.2 Revised: • BRQ135 • BRQ160 Deleted: • BRQ154 • BRQ175 • BRQ180 Section 6.3 Revised: • BRQ270 Added Section 6.5

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Date	Version	Description

3/19/2019	1.2	Updated BRS to reflect revised implementation plans for ESDER 3 Project:
		
		 Section 4:
		
		 • Updated project change statement to indicate the implementation time frames for each major element
		 • Inserted Fall 2019 for ESDER 3A Scopes:
		     o Bid Dispatchable Option
		     o Remove Single LSE Requirement and Default Load Adjustment (DLA)
		     o Customer Load Baseline Submittal
		 • Inserted Fall 2020 for ESDER 3B Scopes:
		     o Load Shift Product
		     o Behind-the-Meter (BTM) Electric Vehicle Storage Equipment (EVSE)
		
		 Section 5:
		
		 • Added Column to indicate implementation period (2019-3A or 2020-3B)
		 • Updated BPM impacts to align with implementation period
		
		 Section 6:
		
		 • Subsection Titles - Added indication of implementation period (2019-3A or 2020-3B)
		 • Added subsecftion 6.5 – Manage Customer Load Baseline Submittals
		 • Changed text to RED for scopes to be implemented in 2020

Table of Contents

1 Introduction

1.1 Purpose

The energy storage and distributed energy resource (ESDER) initiative aims to identify and mitigate barriers that hinder effective market participation of storage and distributed energy resources. The presence of renewables and storage continues to increase and evolve, and therefore so does the integration of these resources into the CAISO markets. The multi-phase ESDER initiative allows these resources to participate more efficiently, thus allowing for more robust market solutions while reducing carbon emissions.

1.2 References

All references represent external requirements documents or stakeholder requests developed and submitted by the Business Units.

Information for this initiative can be found on the following CAISO web page at:

http://www.caiso.com/informed/Pages/StakeholderProcesses/EnergyStorage_DistributedEnergyResources.aspx

Information for this initiative also can be found under the fall 2019 Release on the following CAISO web page at:

http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx

2 Intellectual Property Ownership

Intellectual property covers a broad array of information and materials, including written works, computer programs, software, business manuals, processes, symbols, logos, and other work products. Determining ownership of intellectual property is very important in preserving rights of the California ISO and helps to avoid intellectual property infringement issues. In considering the business requirements or service requirements to be performed, the business owner of the project must determine intellectual property Ownership.

The CAISO retains all intellectual property rights for the content of this Business Requirements Specification.

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2.1 Guidelines

Intellectual property ownership must be considered by all applicable stakeholders before the services are performed. The level of analysis is two-fold. One, the business owner must determine if the intellectual property necessary to perform the services is owned by the California ISO or whether it must be obtained from a third party. Once it has been determined that the California ISO has secured the proper intellectual property rights to perform the services (i.e., the intellectual property is owned by the California ISO or we have licensed it from a third party), then the second step in the analysis is to consider whether new intellectual property will be created as a result of the business requirements or service requirements to be performed and how that intellectual property will be owned and protected by the California ISO. In order to assist the business owner in the analysis previously described, refer to the California Intellectual Property Policy available at http://www.caiso.com/rules/Pages/LegalPoliciesNotices/Default.aspx, which provides a brief tutorial on what Intellectual Property is and how the California ISO can go about protecting its intellectual property. Contact the Legal Department if you have any questions regarding intellectual property.

2.2 Checklist

Intellectual Property created per this BRS will be owned by the CAISO in accordance with existing contract provisions with the software developer.

3 Acronym Definition

Acronym	Definition
ADS	Automated Dispatch System
BCR	Bid Cost Recovery
BTM	Behind The Meter
CMRI	Customer Market Results Interface
DLA	Default Load Adjustment
DLAP	Default Load Aggregation Point
DRP	Demand Response Provider
DRRS	Demand Response Registration System
ED	Exceptional Dispatch
EVSE	Electric Vehicle Supply Equipment
FMM	Fifteen Minute Market
LMP	Locational Marginal Pricing
LSE	Load Serving Entity
MGO	Metered Generator Output (Methodology)
NBT	Net Benefits Test
NQC	Net Qualifying Capacity
PDR	Proxy Demand Resource
PDR-LSR	Proxy Demand Resource-Load Shift Resource
RDRR	Reliability Demand Response Resource
RDT	Resource Design Template
SIBR	Scheduling Interface and Business Rules System

4 Details of Business Need/Problem

The focus of the California Independent System Operator's (CAISO) energy storage and distributed energy resources (ESDER) initiative is to lower barriers and enhance the abilities for energy storage and distribution-connected resources to participate in the CAISO markets. The growing number and diversity of these resources are beginning to represent an increasingly important part of the future grid.

The ESDER initiative is an omnibus initiative with annual phases covering several related but distinct topics. This is the third phase of the overall initiative.
This ESDER 3 project involves the following key changes. Implementation time frames for changes are noted below.

Fall 2019   ESDER 3A

- **Demand Response Dispatchable Bidding Options:**
  - Currently, Demand Response (DR) resources are limited to a 5-minute bid option
  - This project will introduce new dispatchable bid options of 60-Minutes and 15-minutes

- **Removal of Single LSE requirement for DR registrations and default load adjustment (DLA)**:
  - Currently, a DR registration requires that all service accounts/locations be with the same LSE
  - This project will remove the requirement for a single LSE
  - Removal of the single LSE requirement combined with new bid criteria will eliminate the need for the DLA

- **Submittal of Customer Load Baseline Data**
  - Customer Load Baselines are required to be calculated in conjunction with the various Performance Evaluation Methodologies for PDRs and RDRRs
  - Per Tariff requirements, the calculated Customer Load Baselines are required to be submitted to the CAISO along with the underlying load/consumption data associated with the Customer Load Baseline
  - This project provides the requirements and capabilities to submit Customer Load Baseline data

Fall 2020   ESDER 3B

- **Load Shift Product**:
  - A load shift product for behind the meter (BTM) storage devices is being introduced
  - This product will follow the PDR participation model and operate under existing PDR policy provisions
  - These resources can bid and be dispatched for both load consumption or load curtailment
  - Each registered resource will be assigned two (2) unique Resource IDs
  - Specific performance methodologies will be assigned to these resource types

- **Behind-the-meter (BTM) Electric Vehicle Supply Equipment (EVSE)**:
  - This project will enable EVSEs sub-metering and MGO-like performance method for EVSE market participation independent of, or in combination with, its host customer
  - Specific performance methodologies will be assigned to these resource types to address residential versus non-residential installations

5 Business Process Impacts

5.1 Business Practice Manual (BPM)

BPM	Description of Impact(s)	3A 2019	3B 2020
Managing Full Network Model	**N/A**	**N/A**	**N/A**
Congestion Revenue Rights	**N/A**	**N/A**	**N/A**
Market Instruments	**Yes** - Update PDR bid requirements – new SIBR rule, and new bidding options	X	
	Yes – Update to address load consumption		X
Outage Management	**Yes -** Update to incorporate the PDR-LSR outage management protocols		X
Reliability Requirement	**Yes** - Address RA and bidding requirements for PDR-LSR		X
Market Operations	**Yes** - Update market functionality to include PDR-LSR, EVSE		X
Compliance Monitoring	**N/A**	**N/A**	**N/A**
Metering	**Yes** - Updates to Performance Methodologies and PDR Registrations		X
Scheduling Coordinator Certification & Termination	**N/A**	**N/A**	**N/A**
Rules of Conduct Administration	**N/A**	**N/A**	**N/A**
BPM Change Management	**N/A**	**N/A**	**N/A**
Definitions & Acronyms	**Yes** - Add PDR-LSR, EVSE		X
Settlements & Billing	**Yes** - Updates to Charge Code(s)	X	
Credit Management	**N/A**	**N/A**	**N/A**

BPM	Description of Impact(s)	3A 2019	3B 2020
Candidate CRR Holder	N/A	N/A	N/A
Transmission Planning Process	N/A	N/A	N/A
Direct Telemetry	N/A	N/A	N/A
Distributed Generation for Deliverability	N/A	N/A	N/A
Energy Imbalance Market (EIM)	N/A	N/A	N/A
Generator Interconnection Procedure (GIP)	N/A	N/A	N/A
Generator Interconnection and Deliverability Allocation Procedures	N/A	N/A	N/A
Generator Management	N/A	N/A	N/A

5.2 Other

Impact:	Description: (optional)	3A 2019	3B 2020
Market Simulation	Yes	X	X
Market Participant Impact	Yes	X	X
External Training	Yes - Update Demand Response User Guide to reflect changes	X	X
Policy Initiative	Yes	X	X

6 Business Requirements

The sections below describe the Business Processes and the associated Business Requirements involved in the project. These may represent high level functional, non-functional, reporting, and/or infrastructure requirements. These business requirements directly relate to the high level scope items determined for the project.

6.1 Business Process: Manage Demand Response Bidding – Fall 2019 – 3A

Proxy Demand Resources (PDRs) currently participate in CAISO markets. However, some PDRs are constrained from participating in market optimization due to their individual operating characteristics.

New bidding options enabling PDRs to be dispatched for time periods that are supported by their individual operating characteristics will be available to provide opportunities to participate in the CAISO markets.

PDRs will need to identify their specific Bid Option selection when the resources are registered in the Master File. Bid Options can be changed for a given PDR per existing change processes associated with Master File registrations.

Bids will be optimized for dispatch in the market per the current effective Bid Option selected in the Master File.

6.1.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
ESDER3-BRQ001	**Bid Dispatchable Option Type** System to have ability to allow a Proxy Demand Resource (PDR) to register a **Bid Dispatchable** Option Type. **Bid Dispatchable** Options to include: • 60-Minute • 15-Minute • 5-Minute	Core	Master File
ESDER3-BRQ002	**Bid Dispatchable Option Type – RDT** RDT to be updated to include requirement to identify **Bid Dispatchable** Option Type for PDRs	Core	Master File

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
ESDER3-BRQ005	**Bid Dispatchable Option Type Effective Period** System to require Proxy Demand Resource ID to have a single effective **Bid Dispatchable** Option Type registered with a Start Date and End Date	Core	Master File
ESDER3-BRQ006	**Bid Dispatchable Option Type - Startup** 60-Minute - For PDR resources selecting the 60-Minute **Bid Dispatchable** option, RTM shall assume a value of 52.5 minutes (similar to hourly ties), for purposes of making commitment decisions 15-Minute –For PDR resources selecting the 15-minute **Bid Dispatchable** option, RTM shall assume a value of 22.5 minutes (similar to 15-minute ties), for purposes of making commitment decisions.	Core	Market Systems
ESDER3-BRQ010	**Bid Dispatchable Option Type - Market Use** For PDR Bids submitted in the Real-Time Market, system to use the effective **Bid Dispatchable** Option Type from the Master File for market optimization runs	Core	Market Systems
ESDER3-BRQ011	**60-Minute Bid Constraint** For resources selecting the 60-Minute **Bid Dispatchable** option, during the HASP run, system shall enforce a constraint that the resource's schedule for each of the advisory 15-minute interval of the HASP hour (i.e., interval 4-7) is equal but otherwise optimal.	Core	Market Systems
ESDER3-BRQ011C	**Ramping for 60-Minute Dispatches** PDR Resources dispatched based on a 60-Minute **Bid Dispatchable** option to be treated like 60-Minute intertie resources with a 20-minute ramp across hours	Core	Market Systems

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
ESDER3-BRQ011D	**Ramping for 15-Minute Dispatches** PDR Resources dispatched based on a 15-minute **Bid Dispatchable** option to be treated like a 15-min intertie resources with a 20-minute ramp across hours and a 10-minute ramp across 15-minute intervals	Core	Market Systems
ESDER3-BRQ012	**Hourly Schedule Broadcasts** System will make available to the downstream applications binding PDR Hourly schedule 52.5 minutes before scheduled flow of energy Refer to BRQ040 for access to these dispatches	Existing	Market Systems
ESDER3-BRQ014	**Expected Energy 15-Minute and 60-Minute Dispatch** System shall calculate total expected energy using block energy accounting for PDRs selecting the 60-minute or 15-minute **Bid Dispatchable** options, similar to static intertie resources and make it available to Settlements	Core	Market Systems
ESDER3-BRQ020	**PDR 15-Minute Dispatch** System will make available to the downstream applications binding 15-minute dispatches for PDRs Refer to BRQ041 for access to these dispatches	Existing	Market Systems
ESDER3-BRQ040	**RTUC Hourly Advisory Report** System to have the capability to receive and report on Hourly, Energy Schedules and A/S awards (MW & price) for PDRs Data to be available for seven (7) days	Existing	CMRI

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
ESDER3-BRQ041	**FMM Energy Schedules/Awards - RTPD Report** System to have the capability to receive and report on 15-minute Energy Schedules and A/S awards (MW & price) for PDRs	Existing	CMRI
ESDER3-BRQ043	**Expected Energy Report** System to have the capability to receive and report Expected Energy for PDRs having 5-minute, 15-minute and 60-minute dispatches	Existing	CMRI
ESDER3-BRQ065	**Bid Cost Recovery – 60-Minute Bids** Settlements to exclude Bid Cost Recovery (BCR) for PDR Bids having an effective Bid Dispatchable Option type of 60-Minute	Existing	Settlements
ESDER3-BRQ070	**Bid Cost Recovery – 15-Minute Bids** Settlements to include Bid Cost Recovery (BCR) for PDR Bids having an effective Bid Dispatchable Option of 15-minutes	Existing	Settlements
ESDER3-BRQ071	**60-Minute Settlements** The 60-Minute PDRs will be treated like hourly intertie resources with a block 15-minute energy settlement with four equal 15-minute instructed imbalance energy at the corresponding FMM LMP	Existing	Settlements
ESDER3-BRQ072	**15-Minute Settlements** The 15-minute PDRs will be treated like 15-minute intertie resources with a block 15-minute energy settlement at the corresponding FMM LMP	Existing	Settlements
ESDER3-BRQ075	**Bid Verification - SIBR** System to not allow the hourly pre dispatch Option to be changed in SIBR for PDRs.	Core	SIBR

6.2 Business Process: Manage Load Shift Product (PDR-LSR) – Fall 2020 – 3B

The CAISO is adding a load shift product for behind the meter (BTM) storage devices under the PDR participation model. The load shift product will fall under existing PDR policy provisions, but will develop certain functionalities allowing the resource to bid and be dispatched for both load consumption (charging, negative generation) and load curtailment (discharging, generation) from a BTM storage resource.

The initial product will allow a PDR to access day-ahead and real-time energy markets for both load curtailment and load consumption capabilities through the use of two separate resource IDs.

These products will be represented as PDR-LSRs. PDR-LSRs can provide both load curtailment and load consumption through use of two (2) discrete resource IDs registered in the Master File. In addition, discrete Registration IDs in DRRS will be required and certain criteria will apply for each type, i.e., PDR-LSR-Curtailment and PDR-LSR-Consumption.

Current mapping of unique PDR Resource IDs in Master File to associated Registration IDs in DRRS will persist.

6.2.1   Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
ESDER3-BRQ100	**PDR-LSR Registration - DRRS** System to have capability to enable a Registration ID for PDR-LSR resource by selecting Performance Methodologies for LSRs as identified in BRQ140	Core	DRRS

ESDER3-BRQ101	**PDR-LSR Pmin & Pmax Models**
	
	System to enforce business rules for PDR-LSR Resources per the following limits:
	
	• PDR-LSR Curtailment Model
	   o Pmin = zero (0)
	   o Pmax > zero (0)
	
	• PDR-LSR Consumption Model
	   o Pmin < zero (0)
	   o Pmax of zero (0)
		Core	Master File

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
ESDER3-BRQ110	**PDR-LSR Registration** System to have capability to validate a Registration ID for PDR-LSR resource based on the following: • Registration must include at least 1 Service Account with a behind-the-meter (BTM) storage device	Core	DRRS
ESDER3-BRQ112	**PDR-LSR Registration and Resource IDs** System to have capability to assign two (2) Resource IDs to the same Registration ID for PDR-LSR. Individual Resource IDs to represent: • LSR-Curtailment • LSR-Consumption Implementation Notes: • System should display an additional data field for 2nd PDR-LSR Resource ID • When 1st PDR-LSR Resource ID is entered, 2nd Resource ID with complimentary function (i.e., Curtailment or Consumption) should be auto populated	Core	DRRS
ESDER3-BRQ130	**PDR-LSR Registration- MF** System to add capability to create Registrations for two (2) new PDR types: • PDR-LSR Curtailment • PDR-LSR Consumption	Core	Master File

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
ESDER3-BRQ131	**PDR-LSR Initial Registration- SCID** Initial registration for related PDR-LSR Resource IDs, i.e., PDR-LSR Curtailment and PDR-LSR Consumption for the same physical entity, to confirm both Resource IDs have the same SC.	Business Process	Master File
ESDER3-BRQ132	**PDR-LSR Resource ID Updates - SCID** System to require that registration updates for related PDR-LSR Resource IDs, i.e., PDR-LSR Curtailment and PDR-LSR Consumption for the same physical entity, be made by the same SC.	Core	Master File
ESDER3-BRQ135	Bid Dispatchable **Option & Period Consistent** For PDR-LSR Curtailment and PDR-LSR-Consumption Resource, *s*ystem to require: • Bid Dispatchable Option Type to be the same • Start Date and End Date to be the same • GDFs to be the same	Core	Master File
ESDER3-BRQ140	**PDR-LSR Performance Methodologies** System to add six (6) new performance methodologies for PDR-LSR registrations: • LSR-10/10 • LSR-Day Matching 5/10 • LSR-Day Matching 10/10 • LSR-Weather matching • LSR-Day Matching Combined • LSR-Control Group	Core	DRRS

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
ESDER3-BRQ150	**BTM Storage Device in Service Account** System to add capability to indicate if a Service Account has a BTM storage device Implementation Notes: • Indication of a BTM storage device should be "Y" • Service Accounts for which a BTM storage device exists must be terminated and reregistered to identify BTM storage device	Core	DRRS

SDER3-BRQ160	**PDR-LSR RDT Process**
	
	 The following business rules to be enforced for the new resource types noted in BRQ 130:
	
	 • PDR-LSR-Consumption
	    o Bid Dispatchable *must be either:*
	
	      ▪ *5 min*
	      ▪ *15 min*
	
	    o *Worst Operational Ramp rate must meet or exceed the following :*
	
	      ▪ *5 min* Bid Dispatchable *option: ramp rate > = (Pmax-Pmin)/5*
	
	      ▪ *15 min* Bid Dispatchable *option: ramp rate > = (Pmax-Pmin)/15*
	
	    o *No Ancillary Services are permitted*
	
	 • PDR-LSR-Curtailment
	    o Bid Dispatchable *Options can be one of the following:*
	
	      ▪ *5 min*
	      ▪ *15 min*
	
	    o *Worst Operational Ramp rate must meet or exceed the following:*
	
	      ▪ *5 min* Bid Dispatchable *option: ramp rate > = (Pmax-Pmin)/5*
	
	      ▪ *15 min* Bid Dispatchable *option: ramp rate > = (Pmax-Pmin)/15*
	
	    o *Ancillary Services are permitted:*
	
	      ▪ *Spin*
	      ▪ *Non-Spin*
	
	 • Pmin to Pmax ramp rates (5-min or 15-min) to be:
	    o *verified as being achievable*
	    o *validated during RDT process*
		Core	Master File

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
ESDER3-BRQ197	**NQC Rejection for PDR-LSR Consumption** System shall not allow a PDR-LSR Consumption Resource ID to be submitted for request of NQC.	Core	CIRA

6.3 Business Process: Manage Demand Resource Aggregations – Fall 2019 – 3A

The CAISO currently requires DR resource aggregations consist of locations under a single LSE, represented by one demand response provider (DRP), and within a single sub-LAP.

This requirement for a DR resource aggregation consist of locations under a single LSE will be removed. DR resource registrations will be allowed to include locations (service accounts) from multiple LSEs. However, these accounts will still need to be within the same sub-Lap.

In addition, PDR bids will be required to be at or above the current net benefits test NBT price. Bids not meeting this criteria will be rejected. There will be the opportunity to resubmit the bids.

Given that all accepted PDR bids will be at or above the NBT price, there will not be a need for the CAISO to make default load adjustment (DLAs). Thus, the DLA function will be removed and LSEs' metered load will not be subject to adjustments due to the NBT criteria.

6.3.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
ESDER3-BRQ200	**Service Accounts - LSEs** System to allow registrations of PDRs and RDRRs to include Service Accounts from multiple LSEs Implementation Note: • Implementation Plan to manage existing PDR and RDRR registrations should be considered	Core	DRRS
ESDER3-BRQ210	**Service Accounts – Sub-laps** System to require Service Accounts used in a PDR or RDDR registration to be in the same sub-lap	Existing	DRRS
ESDER3-BRQ220	**Service Accounts - DLAP** For PDR registrations, DLAP data will not be required: Implementation Note: • Implementation Plan to manage existing PDR and RDRR registrations should be considered	Core	DRRS
ESDER3-BRQ230	**Eliminate DLAP Mapping** DLAP mapping for PDRs and RDRRs is not required in the Master File **Implementation Note:** A transition plan for DLAP mapping truncation must be developed. Items to include: • Existing DLAP mapping to be retained for historical data purposes • New resource IDs will not need any DLAP mapping	Core	Master File

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
ESDER3-BRQ240	**NBT Price Threshold – DA Market** System to verify all RDRR, PDR and PDR-LSR-Curtailment bids submitted in **DA Market** are at or above monthly NBT price thresholds	Core	SIBR
ESDER3-BRQ245	**NBT Price Threshold – RT Market** System to verify all PDR and PDR-LSR-Curtailment bids submitted in **RT Market** are at or above monthly NBT price thresholds	Core	SIBR
ESDER3-BRQ250	**PDR-LSR-Consumption Price Criteria** System to verify all PDR-LSR-Consumption bids submitted in **DA and RT Market** meet the following criteria: - Equal to or greater than current Bid Floor price and - Less than $0.00	Core	SIBR
ESDER3-BRQ255	**Bid Rejections** If Bids identified in BRQ240, BRQ245 and BRQ250 do not meet the applicable bid criteria noted in the respective BRQ, system shall: - Reject the bid and provide indication of rejection on system's User Interface - Provide an Error Message appropriate for the rejection - Allow rejected bids to be corrected and resubmitted	Core	SIBR
ESDER3-BRQ270	**Remove DLA** System to deactivate current capability that triggers default load adjustment (DLA) function when a PDR delivers energy and the RT LMP is less than the NBT price threshold	Core	Settlement

6.4 Business Process: Manage Electric Vehicle Supply Equipment (EVSE) – Fall 2020 – 3B

EVSEs with sub-metering will be able to participate independent of, or in combination with, its host customer load.

New performance methodologies for residential and non-residential installations have been added.

6.4.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
ESDER3-BRQ300	**EVSE Registration - DRRS** System to have capability to enable a Registration ID for EVSE resource by selecting Performance Methodologies for EVSEs as identified in BRQ301	Core	DRRS
ESDER3-BRQ301	**EVSE Performance Methodologies** System to add eleven (11) new performance methodologies for EVSE registrations: • EVSE-Res • EVSE-Res + Day Matching 5/10 • EVSE-Res + Day Matching 10/10 • EVSE-Res + Day Matching Combined • EVSE-Res + Weather Matching • EVSE-Res + Control Group • EVSE-Non-Res • EVSE-Non-Res + Day Matching 10/10 • EVSE-Non-Res + Day Matching Combined • EVSE-Non-Res + Weather Matching • EVSE-Non-Res + Control Group	Core	DRRS

6.5 Business Process: Manage Customer Load Baseline Submittals – Fall 2019 – 3A

Customer Load Baselines are required to be calculated in conjunction with the various Performance Evaluation Methodologies for PDRs and RDRRs. Per Tariff requirements, the calculated Customer Load Baselines are required to be submitted to the CAISO along with the underlying load/consumption data associated with the Customer Load Baseline.

6.5.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
CLB-BRQ001	MRI-S shall receive an additional measurement type of BASE to collect the resource/registration calculated Customer Load Baseline data for monitoring purposes only	Core	MRI-S, External DRP
CLB-BRQ002	Customer Load Baseline data submitted as measurement type of BASE shall be at hourly granularity	Core	MRI-S, External DRP
CLB-BRQ003	Customer Load Baseline data shall be submitted as measurement type of BASE for the following baseline methods: 1. Control Group 2. Day Matching 5/10 (Residential Only) 3. Day Matching 10/10 4. Day Matching Combined 5. Weather Matching	N/A	External DRP

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
CLB-BRQ004	For registration using Meter Generation Output with 10 in 10 method, the DRP shall submit two sets of data: • Customer Load Baseline data submitted as measurement type of BASE will be for the 10 in 10 element • MGO Customer Load Baseline data submitted as measurement type of TMNT will represent the generation device metered values used in the baseline calculation.	N/A	External DRP
CLB-BRQ005	Customer Load Baseline data submitted as measurement type of BASE shall be submitted only for those hours bids are submitted for trade dates when the resource/registration is being actively bid into the markets.	N/A	External DRP
CLB-BRQ006	Customer Load Baseline data submitted as measurement type of BASE shall be submitted beginning with the resource/registration effective start date and dates going forward until its effective end date.	N/A	External DRP
CLB-BRQ007	Data with measurement type of CBL, TMNT (load) and BASE (calculated) that are used for monitoring purposes shall be retained in MRI-S online for a minimum of 24 months and offline (archived) for a minimum of an additional 60 months	Core	MRI-S

6.6 Business Process: Market Simulation – ESDER 3

The following Identifiers are used as a guide to indicate the reason for Potential Structured or Unstructured Scenarios.

1. *Rule Impacts*: *Generalized changes in market rules, bidding rules, settlements rules, market design changes, or other business rules.*

2. *Interface changes*: *Changes that impact templates (e.g. the Resource Adequacy (RA) supply plan), user interface (UI), and application programming interface (API) (e.g. retrievals of new shadow settlement data).*

3. *New application/report*: *Changes that cause addition/modification of market software or reports, especially when market data input is required by the market participant.*

4. *New system process*: *Modification of data flow in systems, especially if the new process requires the market participant to demonstrate proficiency prior to production.*

5. *New/Modified model data*: *Addition or substantial modification of model data as a market solution provided by the ISO (e.g. BANC split into SMUD and non-EIM BAAs, PowerEx Overlapping Resource Aggregation).*

6. *New user role*: *The addition or modification of access permissions for a user role applied to specific business units within an EIM entity or market participant organization (e.g. Load Serving Entity (LSE) as a Local Regulatory Authority (LRA) role). Structured Scenarios would be beneficial for market participants taking on a new function or process within their organization.*

6.6.1 Business Requirements

ID#	Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario	3A 2019	3B 2020
ESDER3-MKTSIM-000	Day-Ahead Bids for PDRs to reflect new 60-Minute, 15-minute or 5-minute **Bid Dispatchable** options to be used for market optimization and dispatches. DA Awards are 60-Minute.	SIBR (Day Ahead Bids)	Settlements CMRI	1. Rule Impacts 5. New/modified model data	X	
ESDER3-MKTSIM-005	Real-time Bids for PDRs to reflect new **Bid Dispatchable** options of 15-minutes or 60-Minute to be used for market optimization and dispatches.	SIBR (Real Time Bids)	Settlements CMRI	1. Rule Impacts 5. New/modified model data	X	

ID#	Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario	3A 2019	3B 2020
ESDER3-MKTSIM-010	Registration of PDRs to indicate **Bid Dispatchable** option of 60-Minute, 15-minute or 5-minute for defined period	Master File	N/A	1. Rule Impacts 2. Interface changes 5. New/modified model data	X	
ESDER3-MKTSIM-015	Registration of Service Accounts to include indication of inclusion of a Behind-the-Meter (BTM) storage device	DRRS	N/A	1. Rule Impacts 2. Interface changes 5. New/modified model data		X
ESDER3-MKTSIM-020	Registration of Service Accounts to include indication of inclusion of an Electric Vehicle Supply Equipment (EVSE)	DRRS	N/A	1. Rule Impacts 2. Interface changes 5. New/modified model data		X
ESDER3-MKTSIM-025	Registration of new PDR-LSR Resource Types: • PDR-LSR Curtailment • PDR-LSR Consumption	DRRS	N/A	1. Rule Impacts 2. Interface changes 5. New/modified model data		X

ID#	Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario	3A 2019	3B 2020
ESDER3-MKTSIM-030	Submittal of SQMD per Resource ID/Registration ID	MRI-S	Settlements	1. Rule Impacts 2. Interface changes 5. New/modified model data		X
ESDER3-MKTSIM-035	Bid cost recovery for 15-Minute PDR bids	N/A	Settlements	5. New/modified model data	X	
ESDER3-MKTSIM-040	Day-Ahead Bids for PDRs to meet the new NBT Price Threshold criteria	SIBR	Settlements	1. Rule Impacts	X	
ESDER3-MKTSIM-045	Real-Time Bids for PDRs to meet the new NBT Price Threshold criteria	SIBR	Settlements	1. Rule Impacts	X	
ESDER3-MKTSIM-050	Day-Ahead Bids for PDR-LSR-Consumption Resource IDs to meet the new Bid Price criteria	SIBR	Settlements	1. Rule Impacts	X	
ESDER3-MKTSIM-055	Real-Time Bids for PDR-LSR-Consumption Resource IDs to meet the new Bid Price criteria	SIBR	Settlements	1. Rule Impacts	X	
ESDER3-MKTSIM-060	Day-Ahead Bids for PDR-LSR-Curtailment to meet the new NBT Price Threshold criteria	SIBR	Settlements	1. Rule Impacts	X	
ESDER3-MKTSIM-065	Real-Time Bids for PDR-LSR-Curtailment to meet the new NBT Price Threshold criteria	SIBR	Settlements	1. Rule Impacts	X	

ID#	Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario	3A 2019	3B 2020
ESDER3-MKTSIM-070	Day-Ahead Bids for RDRR Resource IDs to meet the new NBT Price Threshold criteria	SIBR	Settlements	1. Rule Impacts	X	