Business Requirements Specification

Extended Day Ahead Market

Document Version: 1.2

Current Version Date: 4/25/2024

	Technology	Template Version:	6.8
California ISO		Document Version:	1.2
Extended Day Ahead Market **Business Requirements Specification - Planning**		Date Created:	8/1/2023

Revision History

Date	Version	Description
8/1/2023	1.0	Initial Document Release.

12/22/2023	1.1	**Section 5.1 Updates**
		
		• Updated BRQs
		   ○ BRQ-02010, BRQ-02030, BRQ-02040, BRQ-02042, BRQ-02044, BRQ-02050, BRQ-02051, BRQ-02054, BRQ-02080, BRQ-02082, BRQ-02083, BRQ-02085, BRQ-02100, BRQ-02102, BRQ-02120, BRQ-02130, BRQ-02140, BRQ-02141, BRQ-02142, BRQ-02150, BRQ-02185
		• New BRQs
		   ○ BRQ-02041, BRQ-02083a, BRQ-02083b, BRQ-02089a, BRQ-02146, 02250
		• Removed BRQs
		   ○ BRQ-02200
		
		Section 5.2 Updates
		
		• Updated BRQs
		   ○ BRQ-04010b, BRQ-04012, BRQ-04013, BRQ-04020a, BRQ-04021, BRQ-04051, BRQ-04052, BRQ-04053, BRQ-04054, BRQ-04058, BRQ-04059, BRQ-04060, BRQ-04065
		• New BRQs
		   ○ BRQ-04032, BRQ-04040
		
		Section 5.3 Updates
		
		• Updated BRQs
		   ○ BRQ-05020, BRQ-05050, BRQ-05080
		
		Section 5.4 Updates
		
		• Updated BRQs
		   ○ BRQ-08020, BRQ-08030, BRQ-08040, BRQ-08050, BRQ-08080, BRQ-08130
		• New BRQs
		   ○ BRQ-08135
		
		Section 5.5 Updates
		
		• Updated BRQs
		   ○ BRQ-11010, BRQ-11013, BRQ-11015, BRQ-11030, BRQ-11054, BRQ-11055, BRQ-11060, BRQ-11070, BRQ-11080, BRQ-11100, BRQ-11102, BRQ-11110, BRQ-11120, BRQ-11130, BRQ-11140, BRQ-11170, BRQ-11172, BRQ-11180, BRQ-11190, BRQ-11210, BRQ-11222, BRQ-11250, BRQ-11260, BRQ-11290
		• New BRQs
		   ○ BRQ-11054a, BRQ-11055a, BRQ-11058, BRQ-11058a, BRQ-11059, BRQ-11099, BRQ-11101, BRQ-11103, BRQ-11112, BRQ-11280, BRQ-11291, BRQ-11295

Date	Version	Description

		Section 5.6 Updates
		
		• Updated BRQs
		  ○ BRQ-12008, BRQ-2016D, BRQ-1203a, BRQ-12040, BRQ-12080, BRQ-12090, BRQ-12110, BRQ-12150, BRQ-12160, BRQ-
		• New BRQs
		  ○ BRQ-12016A, BRQ-12016B, BRQ-12017, BRQ-12020, BRQ-12030
		
		Section 5.7 Updates
		
		• Updated BRQs
		  ○ BRQ-13020, BRQ-13050, BRQ-13052, BRQ-13070, BRQ-13095, BRQ-13100, BRQ-13130, BRQ-13162
		• New BRQs
		  ○ BRQ-13060a, BRQ-13060b, BRQ-13060c, BRQ-13060d, BRQ-13161
		
		Section 5.8 Updates
		
		• Updated BRQs
		  ○ BRQ-14010, BRQ-14074
		• New BRQs
		  ○ BRQ-14014
		
		Section 5.9 Updates
		
		• Updated BRQs
		  ○ BRQ-15010, BRQ-15060, BRQ-15063, BRQ-15071, BRQ-15200
		
		Section 5.10 Updates
		
		• Updated BRQs
		  ○ BRQ-16020, BRQ-16065, BRQ-16090, BRQ-16100
		• New BRQs
		  ○ BRQ-16016, BRQ-16088, BRQ-16104, BRQ-16112a, BRQ-16112b, BRQ-13112c, BRQ-16112d, BRQ-16140
		
		Section 5.11 Updates
		
		• Updated BRQs
		  ○ BRQ-17020, BRQ-17030, BRQ-17040, BRQ-17050, BRQ-17060, BRQ-17070a, BRQ-17080, BRQ-17090, BRQ-17110, BRQ-17120, BRQ-17200, BRQ-17210
		• New BRQs
		  ○ BRQ-17022, BRQ-17070, BRQ-17122
		• Removed BRQs
		  ○ BRQ17220
		
		Section 5.12 Updates
		
		• Updated BRQs
		  ○ BRQ
		• New BRQs
		  ○ BRQ-18530, BRQ-18535, BRQ-18545, BRQ-18547, BRQ-18550

Date	Version	Description

		Section 5.13 Updates
		
		• Updated BRQs
		  ○ BRQ-19010, BRQ-19014, BRQ-19022, BRQ-19026, BRQ-19050, BRQ-19052, BRQ-19063, BRQ-19075, BRQ-19110, BRQ-19115, BRQ-19120, BRQ-19130, BRQ-19140, BRQ-19150, BRQ-19160, BRQ-19170, BRQ-19172, BRQ-19175, BRQ-19240, BRQ-19274, BRQ-19288, BRQ-19298, BRQ-19370, BRQ-19380, BRQ-19400, BRQ-19430, BRQ-19430
		• New BRQs
		  ○ BRQ-19042, BRQ-19051, BRQ-19055, BRQ-19056, BRQ-19490, BRQ-19500
		• Removed BRQs
		  ○ BRQ-19180, BRQ-19182, BRQ-19190, BRQ-19300, BRQ-19310, BRQ-19320, BRQ-19330, BRQ-19340, BRQ-19350, BRQ-19360, BRQ-19362
		
		Section 5.14 Updates
		
		• Updated BRQs
		  ○ BRQ-20000, BRQ-20013, BRQ-20023, BRQ-20030, BRQ-20050, BRQ-20052, BRQ-20054, BRQ-20062, BRQ-20065, BRQ-20070, BRQ-20082, BRQ-20100, BRQ-20110, BRQ-20120, BRQ-20130, BRQ-20140
		• New BRQs
		  ○ BRQ-20010, BRQ-20011, BRQ-20020, BRQ-20022, BRQ-20024, BRQ-20031, BRQ-20051, BRQ-50053, BRQ-20057, BRQ-20068, BRQ-20084, BRQ-20150, BRQ-20156, BRQ-2245, BRQ-20260
		
		Section 5.15 Updates
		
		• Updated BRQs
		  ○ BRQ-20230, BRQ-20240
		• New BRQs
		  ○ BRQ-20227, BRQ-20242
		
		Section 5.16 Updates
		
		• Updated BRQs
		  ○ BRQ-22049, BRQ-22050
		
		Section 5.17 Updates
		
		• Updated BRQs
		  ○ BRQ-24020, BRQ-24040, BRQ-24060, BRQ-24080, BRQ-24100, BRQ-24120, BRQ-24140, BRQ-24160, BRQ-24220, BRQ-24240

04/23/2024	1.2	**Updates by Topic:** • Removal of TSR commodity • DR Inclusion in Forecasting • Removal of GHG losses • RUC model updates • Additional miscellaneous BRQ updates

Date	Version	Description
		Updates by Section/Individual Requirements: **Section 5.1 Updates** • Updated BRQs ○ BRQ-02020, BRQ-02089a, BRQ-02142, BRQ-02190 • New BRQs ○ BRQ-02087, BRQ-02260 • Removed BRQs ○ BRQ-02120 **Section 5.2 Updates** • Updated BRQs ○ BRQ-04041, BRQ-04052, BRQ-04058, BRQ-04060 • New BRQs ○ BRQ-04041 • Removed BRQs ○ BRQ-04054, BRQ-04059 **Section 5.3 Updates** • New BRQs ○ BRQ-05075 **Section 5.4 Updates** • Updated BRQs ○ BRQ-08060 **Section 5.5 Updates** • Updated BRQs ○ BRQ-11010, BRQ-11014, BRQ-11054, BRQ-11150, BRQ-11190 • New BRQs ○ BRQ-11022, BRQ-11106, BRQ-11150a **Section 5.6 Updates** • Updated BRQs ○ BRQ-12008, BRQ-12016D, BRQ-12040, BRQ-12050, BRQ-12180, BRQ-12030 • New BRQs ○ BRQ-12016 • Removed BRQs ○ BRQ-12016A, BRQ-12016B **Section 5.7 Updates** • Updated BRQs ○ BRQ-13052, BRQ-13054, BRQ-13060a, BRQ-13080, BRQ-13100, BRQ-13120 • Removed BRQs ○ BRQ-13130 **Section 5.8 Updates**

Date	Version	Description

		• Updated BRQs
		   o BRQ-14010, BRQ-14020, BRQ-14030, BRQ-14042
		• Removed BRQs
		   o BRQ-14040
		Section 5.9 Updates
		• No changes to BRQs
		Section 5.10 Updates
		• Updated BRQs
		   o BRQ-16015, BRQ-16030, BRQ-16062
		Section 5.11 Updates
		• Updated BRQs
		   o BRQ-17030, BRQ-17070a, BRQ-17200, BRQ-17210
		• Removed BRQs
		   o BRQ-17022
		Section 5.12 Updates
		• No changes to BRQs
		Section 5.13 Updates
		• Updated BRQs
		   o BRQ-19024, BRQ-19026, BRQ-19030, BRQ-19400, BRQ-19420
		• New BRQs
		   o BRQ-19025, BRQ-19063a
		Section 5.14 Updates
		• Updated BRQs
		   o BRQ-20010, BRQ-20011, BRQ-20013, BRQ-20050, BRQ-20051, BRQ-20054, BRQ-20068, BRQ-20070, BFQ-20080, BRQ-20082
		• New BRQs
		   o BRQ-20145
		• Removed BRQs
		   o BRQ-20052, BRQ-20053, BRQ-20062
		Section 5.15 Updates
		• Removed BRQs
		   o BRQ-20242
		Section 5.16 Updates
		• No changes to BRQs
		Section 5.17 Updates
		• No changes to BRQs

Disclaimer and Understanding

All information contained in this draft Business Requirements Specification (BRS) as provided by the California Independent System Operator Corporation (ISO) is prepared for discussion and information purposes only. The draft BRS is provided "as is" without representation or warranty of any kind, including, without limitation, a representation or warranty as to accuracy, completeness, or appropriateness for any particular purpose. The draft BRS shall be revised as the development and review of the business requirements progresses. The ISO assumes no responsibility for the consequences of any errors or omissions. The ISO may revise or withdraw all or part of this information at any time at its discretion without notice.

Table of Contents

1. Introduction

1.1 Purpose

The purpose of this document is to capture and record a description of what the Users and Business Stakeholders of the project wish to obtain, by providing high level business requirements. This document establishes the basis for the agreement between the initiators and implementers of the project. The information in this document serves as input to determine the scope of projects and all Business Process Modeling and System Requirements Specifications (SRS) efforts.

Business requirements are what must be delivered to provide value for the Users and Business Stakeholders. Systems, software, and processes are the ways (how) to deliver, satisfy, or meet the business requirements (what).

1.2 Conventions

None

1.3 Scope

Pre-Market Activities

- Extended Day-Ahead Market (EDAM) participating entity contracting
- DA Resource Sufficiency Evaluation (RSE):
    - Optimally determine resource sufficiency for each Balancing Authority Area (BAA) ahead of Day-Ahead Market (DAM) run
    - Report the deficiency of Energy, Imbalance Reserves Up/Down (IRU/IRD), and Ancillary Services (AS)
    - Evaluate RSE before DAM closes for each EDAM BAA
    - Tiered failure consequences with tolerance band and surcharge
- Transmission Commitment (RSE eligible, transmission right, unsold Available Transfer Capacity)
    - Consume from each BAA the availability of transmission internally and across transfer points between EDAM BAAs before market runs
    - Consume transfer limits between EDAM BAAs that parties are using to support RSE showing
    - Register and respect the exercise of existing transmission rights
    - Register and consume the transfer capacity for unsold Firm Available Transfer Capacity (ATC)

DA Market Processes

- Integrated Forward Market (IFM)
    - Market Power Mitigation (MPM) for Energy and IRU for EDAM BAAs – extend DAME
    - Identify transfers for energy, IR and Reliability Capacity (RC) across EDAM BAAs

Copyright 2023 California ISO

- - o Procure IRU/IRD across EDAM footprint – extend DAME
    - o EDAM entity option to activate hourly net transfer out constraint
    - o Price formation for each EDAM BAA, with BAA energy components MEC
- Residual Unit Commitment (RUC)
    - o Any offer into IFM must also be offered into RUC
    - o Include MPM for reliability upper capacity – extend DAME
    - o Procure RCU/RCD across EDAM footprint – extend DAME
- Convergence Bidding
    - o Retain convergence bidding as it is today in ISO
    - o Optional for BAAs participating in EDAM
- External Resource Participation:
    - o For ISO – continue to allow intertie bids from non-EDAM BAAs
    - o Allow EDAM BAAs to submit self-schedules or qualified network resource economic bids at interties from non-EDAM BAAs

Greenhouse Gas (GHG) Accounting and Design

- Model multiple GHG regulation areas and boundaries
- Build a GHG reference pass before MPM/IFM without GHG bids to build resource GHG reference point
- Extend resource specific GHG attribution model used in WEIM to EDAM, utilize the GHG reference point
- Limit GHG attribution to hourly net export transfers or to zero if there is a net import transfer, allow Resource Adequacy (RA)/contract import

Post-DA Market Processes

- Report Tagged DAM awards after DAM, publish tagging report around 3 hours after EDAM. Require tagged DAM schedule or resupply by TH-5h to be counted in the pooled WEIM RSE

Real Time Market

- Resource with DAM awards subject to must offer in RTM
- The EDAM BAAs that tagged and/or resupplied will conduct pooled RTM-RSE
- Align WEIM GHG model with EDAM GHG model
- Price formation for each WEIM BAA with BAA energy components MEC

Settlements

- Collect transfer revenue for energy transfer, imbalance reserve (IRU/IRD) transfer and Reliability capacity (RCU/RCD) transfer
- Allocate transfer revenue to EDAM BAA or transmission rights owner
    - o ISO BAA sub-allocation to be determined in CAISO EDAM Participation Rules Initiative
- Allocate congestion revenue to the BAA which transmission constraint modeled
- Settlements and allocation for energy, IRU/IRD, RCU/RCD
- DAM Settlements for GHG
- IFM RSE failure Administrative surcharge settlements and allocation

- IFM Bid cost recovery (BCR) and RUC/RTM BCR
- EDAM BAAs use DAM schedule (instead of base schedule) as the reference point to calculate the imbalance energy
- RTM deviation Settlements for Energy/GHG/FRP/TSR
- EDAM administrative fees

1.4 Acronym and Terms Definitions

Refer to **Appendix A0: Acronym** Definition

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 the 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.

2.1   Checklist

All information in this document is the Intellectual Property (copyright, trademark, patent, and/or trade secret) of the California ISO.

3. Details of Business Need/Problem

1. Description

Business Opportunity/Problem Statement:	
What:	The purpose of this initiative is to create a comprehensive extended day-ahead market (EDAM) that extends over multiple balancing authority areas (BAAs) participating in the WEIM. The EDAM will support voluntary entry, exit, and resource participation in the regional market. The EDAM market design is consistent with the ISO's commitment to fiscal responsibility in structuring an equitable rate design for implementation and EDAM fees, resulting in fair and reasonable rates for its market participants. The market is designed to ensure confidence in market transfers. ∗ The EDAM design leverages existing features of the ISO day-ahead market. The design also considers enhancements proposed in contemporaneous stakeholder initiatives that will harness flexibility across the larger footprint by incorporating an imbalance reserve product.
Why do we have this opportunity/problem:	EDAM is a voluntary day-ahead electricity market with the potential to deliver significant economic, environmental, and reliability benefits for participants across the West. EDAM will more efficiently and effectively integrate renewable resources and address the significant operational challenges presented by a rapidly changing resource mix, emerging technologies, and the impacts of climate change. EDAM will enable procurement of robust supply and flexible capacity that will position EDAM participants to effectively address changes in conditions from day-ahead to real-time, improving their response to potential reliability challenges. EDAM builds upon the proven ability of the Western Energy Imbalance Market (WEIM) to increase regional coordination, support state policy goals, and cost effectively meet demand.

4. Business Impacts

4.1 Business Practice Manuals (BPM)

BPM	Description of Impact(s)
Definitions and Acronyms	Yes-new definitions and acronyms as outlined in Tariff Appendix A
Energy Imbalance Market	Yes, details defined in Tariff and requirements
Extended Day Ahead Market	Yes, new BPM-details defined in Tariff and requirements
Market Instruments	Yes-details defined in requirements
Market Operations	Yes-details defined in requirements
Settlements and Billing	Yes-details defined in requirements

4.2   Other

Impact	Description (optional)
Market Simulation	Yes
Market Participant Impact	Yes
External Bid Publication	Yes
User Acceptance Testing (UAT)	Yes
Operational Procedures	Yes
Customer Readiness Impact	
• **External Communication Needed**	Yes
• **External Onboarding and Maintenance**	Yes
• **External Training**	Yes
• **External Computer Based Training**	Yes
Policy Initiative	Yes

5. 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.

5.1 Business Process: Manage Model and Contract Implementation and Full Network Model (Master File)

- Define BAA with EDAM participation and activate date
- Define EDAM entity SC and EDAM resource SC—same for DAM and RTM
- Define EDAM internal and external resources, market product eligibility, and RSE flag
- Define DA transfer resources paired ETSRs: with attributes RSE and CRN
- Define EDAM BAA options/eligibilities: CB
- EDAM Entities Sign Attestation for Non-Participating DR Schedules Submission
- Define EDAM Entity election for Demand Response (DR) Inclusion Flag
- STF Notification of Changes to DR Inclusion Flag on EDAM Entity
- Define North/South DGAPs for scheduled resources with unknown location—SP and super DGAP association
- Define GHG regulation areas and resource association
- Define GHG regulation area and branch association in EMMS
- Define GMC rate for EDAM
- Define EDAM load and VER resource type forecast election: ISO or self-provided
- Define EDAM BAA CF and RM for net transfer out constraint
- Define Apnode for Imbalance Demand Hub for each EDAM BAA

5.1.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted

EDAM-BRQ-02010	**Define EDAM Entity and EDAM entity SC**
	
	- Register EDAM entity
	  - Only WEIM entity can choose to participate in the EDAM
	    - WEIM entity can continue to participate solely in the WEIM
	  - New entity can join the WEIM and EDAM simultaneously
		Core	Master File

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted

	o An entity exiting EDAM (with 6 month notice) can continue to participate in the WEIM
	
	• EDAM entity SC shall have the same SCID as in WEIM
	  o EDAM entity SC represents EDAM entity
	  o EDAM entity SC may represent a market participant other than an EDAM entity
	  o EDAM entity SC may or may not be the SC for a market resource unless it is a government entity or gen-only BAA
	  o Expanding current WEIM entity SC functionality—reclassify SCID to denote just WEIM or WEIM and EDAM		

EDAM-BRQ-02020	**Define EDAM BAA participation and date:**
	
	• Define BAA with EDAM participation flag
	• Define activate date
	  o Date must be not less than 6 months and not more than 24 months after the effective date of the EDAM Entity Implementation Agreement
	  o The EDAM Entity may request a date change
	Note: refer to DAME-BRQ-01200
		Core	Master File

EDAM-BRQ-02030	**Define EDAM BAA elections for convergence bidding (CB)**
	
	• Define EDAM BAA convergence bidding (CB) activation date
	  o CAISO CB shall remain activated – no change
	  o EDAM BAA can elect to activate CB at the time of joining EDAM, or elect to join EDAM* without convergence bidding
	
	• Registered location, position limit, and nodal constraint will be applicable for the EDAM BAAs that elect CB, in the same manner as CAISO
	
	*Note: For BA that do not elect to turn on CB when joining EDAM, CB will NOT be automatically activated. After approximately two years of EDAM operation, Policy will make a determination regarding when and how to enable CB across the entire EDAM footprint
		Core	Master File

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-02040	**Define EDAM BAA load and VER forecast options: ISO forecast or self-provide** • Define BAA option for load forecast: ISO-provided or self-provided—selection shall apply to both DAM and RTM • Define BAA option for VER resource or resource type forecast: ISO-provided or self-provided—selection shall apply to both DAM and RTM • Define all Hybrid Resources and the VER component forecast to be the same as the VER resource election	Core	Master File
EDAM-BRQ-02041	**EDAM Entities Sign Attestation for Non-Participating DR Schedules Submission** **(refer to RSEE1-1060-BRQ-01020)** Each EDAM Entity that plans to utilize a DR program shall sign an attestation that adjustments made to the demand forecast used by the RSE (via submission of Non-Participating DR Schedules) corresponds to expected increases or reductions in demand provided by their programs. **Notes** • EDAM Entity by default is WEIM Entity too and all rules applicable to WEIM RSEE requirements shall be applicable to the EDAM Entities.	Process	N/A

EDAM-BRQ-02042	**Define EDAM Entity election for Demand Response (DR) Inclusion Flag**
	
	(refer to RSEE1-1060-BRQ-01040)
	
	• Define Demand Response (DR) inclusion flag for including non-participating DR for load adjustment in RSE:
	   o One flag per Entity
	• Where Entity is either:
	   o WEIM-only Entity (existing)
	   o EDAM Entity
	• That flag shall be enabled for an Entity, only if it has signed attestation stating that adjustments made to the demand forecast used by the DA/RT RSE corresponds to expected increases or reductions
		Core	Master File

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	(non-zero values) in demand provided by their programs. **Note:** Requires EDAM Entity's attestation.		
EDAM-BRQ-02044	**Define EDAM BAA Assistance Energy Transfer (AET) for WEIM** • Allow EDAM BAA to elect WEIM AET ○ Allow EDAM BAA election for AET option-in/out. Note: In RTM if pooled EDAM BAAs fail the RTM-RSE, form two sub-pools: the sub-pool of BAA that elected AET, and sub-pool of BAAs that elected non-AET EDAM BAAs will be able to elect AET opt-in/out in RTM regardless of the outcome of RSE test for them in DAM (given they are WEIM BAAs in RTM).	Existing RSEE2	Master File
EDAM-BRQ-02050	**Define EDAM resource scheduling coordinator (SC)** • SC for WEIM and EDAM shall be the same (i.e. supply resources in both WEIM and EDAM shall have the same SC) • SC for load resource for LSE in EDAM BAA to submit load bids and self-schedule for ELAP, for CLAP if applicable, similar as current DAM configuration to support ISO DLAP, CLAP • SC for convergence bidding for EDAM BAA opt-in CB, no change as ISO Note: SC must enter into a SC agreement	Process	Master File
EDAM-BRQ-02051	**Define SC for DA TSR** • Entity SC for intertie resource, transfer resource (TSR) in EDAM and WEIM (ex: DA TSR RSE eligible) • Define eligible transmission customer SC for system resource (SR) and TSR (ex: transmission right owner, TSR with contract CRN)	Core	Master File
EDAM-BRQ-02052	**EDAM SC and WEIM entity and resource shall have a one-to-one relationship** • An EDAM Entity SC or EDAM Resource SC must have a one-to-one relationship with an EIM Entity or	Process	Master File

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted

	EIM Participating Resource it represents in the Energy Imbalance Market
	
	    o One Entity SC represents the entity participating in EDAM and WEIM
	
	    o One resource SC represents the resource participating in EDAM and WEIM
	
	    o One-to-one relationship with resource and entity
	
	• Applicable EDAM LSE SC shall have a one-to-one relationship with the EIM Sub-Entity		

EDAM-BRQ-02054	**Nodal Price Model (NPM) supports only non-EDAM BAAs** • NPM shall only support non-EDAM BAA, Remove NPM settings for the BAA that join EDAM- o BAA can be either NPM or EDAM, but cannot be both • DAM will continue to support NPM for new BAAs that subscribe to the NPM service. **Note:** May be set a test case with remove PACE/PACW, add a NPM BAA	Process	Master File
EDAM-BRQ-02060	**Define ISO and EDAM Internal supply Resource participation and eligibility for RSE** • All resources within the BAA will participate in the DAM market. • Define Resource sufficiency evaluation (RSE) eligible flags for DA-RSE o Internal supply resources are RSE-eligible if they are designated resources. • If a resource participates in DA-RSE, it must participate in RT-RSE. However there can be resources that participate in RT-RSE only (and not in DA-RSE).	Core	Master File
EDAM-BRQ-02062	**Define EDAM Supply Resource for capacity eligibility** • Extend eligibility flags for IRU/IRD, RCU/RCD to EDAM resources (from DAME) • Specify EDAM resource flags for DAM, Energy, AS, same as ISO resources	Core	Master File

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-02070	**Define EDAM load Resource** • Define load resources for LSE in ELAP • Define Load resource SC • Define load forecast zone • Define CLAP resource for third party load	Process	Master File
EDAM-BRQ-02080	**Define dynamic resource (TG) with RSE eligibility** • For ISO o Define dynamic schedule or pseudo-tie resource to submit economic bids or self-schedules (SS) in EDAM o Dynamic resource (TG) should be registered as RSE eligible • For other EDAM BAA o Define dynamic or pseudo-tie resource to submit economic bids or SS in EDAM o Dynamic resource (TG) should be registered as RSE eligible o Define network resource under OATT, register as TG, to submit economic bids for EN/IR/RC or SS energy in EDAM. The network resource shall be located in WEIM BAA, outside of EDAM BAA, and must be a physical resource o Network resource under OATT, registered as TG, shall be RSE eligible • The dynamic schedule from one EDAM BAA to another EDAM BAA is not supported, SC shall bid from the resource in EDAM BAA and transfer TSR	Process	Master File

	Template Version:	6.8
Technology	**Document Version:**	**1.2**
Extended Day Ahead Market Business Requirements Specification - Planning	Date Created:	8/1/2023

California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted

EDAM-BRQ-02082	**Define system resource (SR) between EDAM BAA and non-EDAM BAA RSE eligibility**
	• For ISO
	    o Define system resource to submit economic bids or self-schedule (SS) in EDAM
	    o Import System Resources at CISO interties are RSE-eligible only if associated with a contract (CRN or RA)
	    o PT export is RSE eligible
	• For other EDAM BAA
	    o EDAM entity SC shall register static system resource (SR), can only self-schedule (SS) in EDAM, no economic bids
	    o All import/export system resources should be registered as RSE eligible
	Note:
	PT – high priority export as provided in existing tariff rules applicable to CISO
		Process	Master File

EDAM-BRQ-02083	**Define Mirror Resource for SR in non-EDAM BAA that is in a WEIM BAA**
	• Setup the Mirror System Resource (MSR) in WEIM for mirroring the DA schedule between EDAM BAA and non-EDAM BAA that is a WEIM BAA.
	• Define mirror resource on a WEIM BAA DGAP
	    o WEIM BAA will submit base schedule on MSR mirroring aggregated SR DA schedules of EDAM BAAs
	        ▪ DA schedule can be the schedules for SR MF defined or dynamic formed transaction ID
	    o WEIM BAA can elect to set MSR as auto-mirror for the aggregated DA schedule of SRs between WEIM BAA and EDAM BAAs
	Note:
	Non-EDAM WEIM BAA needs to set up and schedule mirror resource
		Core	Master File

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-02083a	**Process existing Mirror System Resources (MSR)** • Existing MSRs for EIM BAAs not joining EDAM that mirror DA CISO import/export schedules at CISO Scheduling Points will be preserved, but the MSR location will move to the DGAP of the EIM BAA • Existing MSRs for EIM BAAs joining EDAM that mirror DA CISO import/export schedules at CISO Scheduling Points will be retired; EDAM Transfers will be used instead	Process	Master File
EDAM-BRQ-02083b	**Support Auto-mirror MSR for DA schedule** • Setup Auto-mirror for MSR at WEIM BAA DGAP that Import/Export with EDAM BAA.	Core	Master File
EDAM-BRQ-02084	**Define wheel through EDAM BAA schedule** • A wheel through an EDAM Entity BAA from an EDAM External Intertie location to another EDAM External Intertie location, balance self-schedule import/export—same as wheel setup for ISO • Define Wheel through ISO schedule from non-EDAM BAA to non-EDAM BAA—same as today	Process	Master File

EDAM-BRQ-02085	**Define Super DGAP (SDGAP) hubs for system resource without location for non-EDAM BAAs**
	• Super DGAP(SDGAP) shall associate directly with Pnodes of non-EDAM BAAs in WECC
	Define multiple SDGAP hubs,
	  o *North SDGAP*, include WECC northwest non-EDAM BAA's pnodes, define the list
	  o *South SDGAP*, include WECC southwest non-EDAM BAAs' pnodes, except Mexico (CFE), define the list:
	    ▪ North SDGAP and South SDGAP shall not overlap
	  o If a BAA joins EDAM, remove the BAA from associated SDGAPs
	• The default GDF for SDGAP is derived from the underlying non-EDAM BAAs' default GAP's GDF
	• Define the Apnode on the SDGAPs
		Core	Master File

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-02086	**Define DGAP association with Interties and scheduling point (SP) and ITC/ISL** • All SR at SP need to specify the DGAP location—register the SR and DGAP in the RDT • The alternate tie should specify the DGAP and associated ISL constraint.	Core	Master File RDT
EDAM-BRQ-02087	**Associate DGAP-TIE, Tie- ITC** • Define DGAP and TIE mapping • Define SDGAP and TIE mapping, o associate north/south SDGAG with corresponding north/south TIE, • Define TIE-ITC mapping.	Core	Master File
EDAM-BRQ-02088	**Associate DGAP and System resources (SR) that are currently defined at CAISO Scheduling Point (SP)** 6. Communication with existing SR resource SC to register the DGAP location 7. SC of SR shall submit the association of DGAP of BAA or super DGAP location for the SR	Process	Master File

EDAM-BRQ-02089	**Define system resource (SR) with unknown location at specified non-EDAM DGAP for ISO and EDAM**
	
	• Terminate the registered system resource between two EDAM BAAs and between EDAM BAA and ISO, except for RA
	
	• RA resource at ISO SP will have the following rules:
	   o RA is scheduled between ISO and EDAM BAA through RSE eligible TSR
	   o RA is mapped to non-EDAM DGAP, keep SR and Mirror for RTM if it is WEIM BAA, ex: Mona SP for RA, Malin SP
		Core	Master File

EDAM-BRQ-02089a	**Model existing SR for ISO** • The location of System Resources with DA import/export schedules at CISO Scheduling Points from/to non-EDAM BAAs in DAM will move to the source/sink BAA DGAP	Process	Master File

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• The location of System Resources with DA import/export schedules at CISO Scheduling Points from/to non-EIM BAAs in RTM will move to the source/sink BAA DGAP • The Scheduling Point and intertie association of the System Resources in (1-2) above will be preserved		
EDAM-BRQ-02090	**Resources not eligible for DA resource sufficiency evaluation for ISO and EDAM:** • Non-PT exports are not RSE eligible • Wheel through schedules are not RSE eligible • Convergence bid resources are not eligible for RSE • Load resources are not eligible for RSE • If internal resource are pseudo-tie out for other BAA, they are non-RSE eligible	Process	Master File
EDAM-BRQ-02100	**Define paired DA TSRs resource ID of paired EDAM BAAs** • EDAM entity SCs register DA TSR, paired TSRs (Import/Export) for paired EDAM BAAs in the same manner as in WEIM: o DA TSR is defined as a separate variable, in addition to the WEIM Base ETSR, static/dynamic ETSR • Designate one of the paired DA TSR as the one to submit tag for DA TSR and mirror resource same as for WEIM Base • DA TSR can model transfer of energy, IRU/IRD, RCU/RCD in the DAM	Core	Master File
EDAM-BRQ-02102	**Define EDAM TSR and WEIM ETSR at transfer location at Cnode/Apnode of the intertie** • For WEIM all static, dynamic, base transfer resource ETSR, change ETSR resource location to transfer location at Cnode/Apnode of the intertie • For EDAM transfer resource TSR, define TSR resource location to transfer location at Cnode/Apnode of the intertie Note: EDAM and WEIM will explicitly settle the transfer resource. Market will calculate the Locational price for energy, congestion and losses. The transfer location will be used to calculate nodal price, and used in Settlements for transfer revenue and transfer MCC allocation.	Core	Master File

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-02110	**Define RSE eligibility for the DA TSR** • Define RSE flag for the transfer resource DA TSRs that are eligible for the EDAM BAA resource sufficiency evaluation • DA TSR can be associated with CRN, if RSE flag is not set at MF, it is determined as RSE eligible based on the volume of self-schedule in the market.	Core	Master File

EDAM-BRQ-02130	**Register contracts/transmission rights (CRN) for ETC/TOR/OATT associated with DA TSR**
	
	For the transfer capacity that under transmission right contract:
	
	• Define the transfer resource paired DA TSR resources associated with contract CRN
	
	   ○ Define the CRN contract same as today for CAISO: PTP or Network, transmission rights, start and end date, impact an intertie, schedule priority, congestion reversal, loss reversal
	
	• Define the transmission customer SC for the DA TSR with CRN, allow the paired DA TSR to have the same SC
	
	• For ETC/TOR: EDAM entity shall register both the physical and financial locations
	
	• Define two new contract types for OATT, in addition to ETC, TOR
	
	   ○ OATT 1: higher scheduling priority in RT than DA schedules
	
	   ○ OATT 2: equal scheduling priority with DA schedules in RT
	
	   ○ Note: All other attributes for OATT 1 and OATT 2 are the same
		Core	Master File

EDAM-BRQ-02134	**Register contracts/transmission rights (CRN) associated with EDAM BAA internal legacy transmission contracts** • Define EDAM internal legacy transmission contracts in the same way as ETC/TOR for ISO. Note: EDAM will extend the model for ISO's ETC/TOR to EDAM BAAs to accommodate the legacy contracts in the EDAM BAAs.	Core	Master File

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-02140	**Define GHG regulation areas for DAM and RTM** • Define GHG regulation area (E.g. California, Washington) • Define GHG area Anode and to map the Cnodes • Allow DAM and RTM to have different GHG regulation area boundaries. Define GHG regulation area association with DAM GHG regulation area, RTM GHG regulation area Example: the CAISO BAA and other CA BAAs are in the California GHG regulation in WEIM, but the CAISO BAA could be the only BAA in the California GHG regulation in the DAM: • Define 3 regulation Anodes for CA: define overall CA GHG Regulation Anodes, DA CA GHG regulation Anodes, and RT CA GHG regulation Anodes. DA and RT are linked to overall CA to support deviation Settlements.	Core	Master File
EDAM-BRQ-02141	**Map GHG regulation areas and associated internal resources for all WEIM and EDAM BAAs that overlap with CA state and/or WA state** • Any WEIM BAA that overlaps with Washington State and/or CA State must provide the substation-to-state mapping for all existing and new/future substations • For each GHG regulation area, associate internal supply resources and demand resources Note: The GHG internal resources will include GHG cost in energy bids for this GHG area. No GHG bid for the resources deemed as internal to a GHG area	Core Process	Master File
EDAM-BRQ-02142	**Define GHG contractual MW and compliance obligation for resources outside a GHG regulation area to serve demand in that GHG regulation area** • The EDAM Entity scheduling coordinator must register whether their supply resource has contractual MW obligations (includes RA and non-RA) to serve load in another BAA if that BAA overlaps with a GHG regulation area. o A resource should not be GHG pseudo-tied to the GHG Regulation Area	Core	Master File RDT

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	o Sum of contractual MW to multiple GHG regulation areas cannot exceed resource Pmax o EDAM Entity SC must provide MW committed and the start and end dates of the commitment o Register contractual MW obligations at hourly granularity (i.e. one MW value per hour per resource) • Follow standard MF change process (i.e. system shall not support dynamic changes for this process)		
EDAM-BRQ-02143	**Split existing WEIM Load Aggregation Points (ELAPs) across GHG states boundaries** • ELAPS shall be defined for each portion of a BAA that overlaps with a GHG regulation area and for each portion of a BAA that does not overlap with a GHG regulation area, based on CNODE coordinates. o Entity coordination likely required	Core	Master File
EDAM-BRQ-02144	**Establish and maintain association of nodes and resources as described in BRQ-02143**	Business Process	Master File
EDAM-BRQ-02145	**Define Resource GHG pseudo-tie flag for the specified GHG area** • GHG pseudo-tie must be an energy pseudo-tie resource, no GHG bid adders are allowed under this model. This attribute shall be submitted by the SC • Only resources in a BAA that partially overlaps with a GHG regulation area shall have the option to elect the GHG pseudo tie attribute • Resources not located in a BAA that overlaps with a GHG regulation area must establish a pseudo-tie into a BAA that overlaps with a GHG regulation area to be able to elect GHG pseudo tie • System shall not support GHG pseudo-tie from one GHG area to another GHG area without a pseudo-tie established	Core	Master File

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• GHG pseudo-tie resources shall include GHG cost in energy bids and DEBs Note: In IFM/RTM, GHG constraint shall consider this resource to be GHG internal resource → no GHG attribution.		
EDAM-BRQ-02146	**Define Intertie (Tie ID) association with GHG Regulation Area** Define the Tie IDs of the BAA with GHG regulation areas: • The BAA shall overlap with one or more GHG regulation areas • One Tie shall only associate with one GHG regulation area • The different Ties of the BAA can associate with different GHG regulation areas if the BAA overlaps with more than one GHG regulation area	Core	Master File
EDAM-BRQ-02150	**Define the GHG bid adder framework** • The definition of a new GHG area in MF shall activate the GHG bid adder framework for that area (i.e. activation of GHG bid adders, LMPs including GHG components)	Business Process	Process
EDAM-BRQ-02180	**Define GMC rate for EDAM BAAs**	Core	Master File
EDAM-BRQ-02185	**Define a flag that indicates whether a BAA overlaps with GHG regulation area** • Include a flag for BAAs that wholly or partially overlap with GHG regulation area	Core	Master File
EDAM-BRQ-02190	**Define GHG regulation area and network branch association** • Based on the GHG area Apnode and Cnode, if branch is within the GHG regulation area, define an attribute to associate branch with GHG regulation area	Core	Internal ISO System
EDAM-BQ-02220	**Define EDAM BAA Imbalance Demand Hub** • Define anode, APnode for EDAM BAA Imbalance demand Hub, include load nodes, solar resource Cnodes and Wind resource Cnodes	Core DAME	Master File

	Technology	Template Version:	6.8
California ISO		Document Version:	1.2
Extended Day Ahead Market **Business Requirements Specification - Planning**		Date Created:	8/1/2023

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-02250	**Extend Definition and accessibility of Imbalance Demand Hub to EDAM BAAs** **(refer to DAME-BRQ-01150)** System shall extend the definition and accessibility Imbalance Demand Hub to EDAM BAAs.	Core	Master File
EDAM-BRQ-02260	**Allow EDAM entities to submit use-limited data** • System shall allow EDAM entities to submit use-limited data in the same manner as in WEIM today Data shall be displayed on the Actual Limitation Values and Opportunity Cost CMRI reports (under the Default Bids category)	Core	Master File

Copyright 2023 California ISO

5.2 Business Process: Manage Forecast (ALFS)

- Load forecast and publication for EDAM BAAs every 30 minutes (configurable) between 6 am-9am
- VER forecast and publication for EDAM BAAs every 30 minutes (configurable) between 6 am-9am
- DR adjustment (Extend RSEE 2 DR functionality to EDAM)

5.2.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-04010a	**Forecast System to Forecast load for all EDAM forecast zone levels between 6 am and 9 am** - CAISO STF forecast load at the EDAM BAA level for all EDAM entities - CAISO STF forecast load for all custom LAP forecast zones	Core	ALFS
EDAM-BRQ-04010b	**System will make the load forecasts available every 30 minutes for all forecast zones between 6am and 9am**	Core	ALFS
EDAM-BRQ-04012	**Allow EDAM entities to select ISO forecasted load or self-provided forecasted load** - Access MF DA and RT selections that are required to match - Selection timing and changes to selections shall follow the development process outlined in Tariff §Appendix Q (minimum of 30 days) - If any sub-entity elects to self-provide forecasts, the entire entity shall self-provide forecasts	Core	ALFS
EDAM-BRQ-04013	**ISO and self-provided forecasts shall follow existing DAM timing and granularity:** - Submit DA through day 7 forecasts in hourly granularity - Allow for updates to forecasts for advisory RSE runs every 30 minutes between 6 am and 9 am - Include processing time buffer (exact amount TBD) ahead of 6 am and 9 am for self-provided forecast submission - If no self-provided forecast is submitted, back-fill with ISO forecast	Business Process	ALFS ALFSSOA

	Template Version:	6.8
Technology	**Document Version:**	**1.2**
Extended Day Ahead Market Business Requirements Specification - Planning	**Date Created:**	**8/1/2023**

California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-04014	**EDAM entity data submission requirements for CAISO to build forecasts** • 5 year historical load data • Weather Stations • Zip code mapping (to assist with BTM/DER incorporation) Note: If the entity already uses ISO forecast in WEIM, no new data is needed	Business Process	ALFS
EDAM-BRQ-04020a	**System shall make available hourly VER forecast every 30 minutes between 6am and 9am**	Core	ALFSSOA
EDAM-BRQ-04020b	**Forecast System to generate VER forecast for every EDAM entity**	Core	ALFS
EDAM-BRQ-04021	**Allow EDAM entities to select ISO VER forecast or self-provided VER forecasted** • Access selection of ISO provided for self-provided that is performed in MF • DA and RT selections are required to match • Forecast fee shall be charged to entities that consume ISO provided forecasts for either DAM or RTM • Selection timing and changes to selections shall follow the development process outlined in Tariff §Appendix Q (minimum of 30 days) • If any WEIM BAA entity breakout elects to self-forecast, the entire BAA shall provide self-forecasts	Core	ALFS (from MF)
EDAM-BRQ-04032	**Forecast shall not be modified to account for DA RDRR. RDRR is treated as supply in RT**	Business Process	ALFS

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-04040	**Access EDAM and WEIM Entities Participation Flags** System shall access the following data from MF: • EDAM Participation Flag (and its activation date) • WEIM Entity Flag (and its activation date)	Core	ALFSSOA (MF)

EDAM-BRQ-04041	**Setup configurable performance factor by forecast zone**
	
	• Define submitted historical performance as a DR Performance Factor for EDAM/sub-entity forecast zone based on the submission by EDAM/WEIM entity through CIDI
	
	  o Submitted Performance factor value must be ≥0; default value is 1
	
	• Define effective performance factor for each forecast zone
	
	  o Default value shall be the same as submitted value.
	
	  o The CAISO will not override DR performance factors, however under exceptional circumstances the CAISO may override a DR schedule for specific intervals
	
	• Submitted and effective performance factors shall be communicated to EDAM/WEIM entities
	
	• EDAM BPM section for non-participating DR will detail requirement for EDAM Entities to submit historical DR performance evaluation data for the DR Performance Factor, and/or rely on CAISO DR performance evaluation
		Core	ALFS
			
			(CIDI)

EDAM-BRQ-04051	• **Access DR Inclusion Data from MF** System shall access the following data from MF:
	  o DR Inclusion Flag
	    ▪ (Entity level, whether EDAM Entity, WEIM-only Entity)
	• System shall translate the EDAM/WEIM-only Entity flag to their associated LF zones.
	
	Note:
	If the translated flag is enabled for a LF zone, it shall allow the entity with which it is associated and responsible for its LF submission (whether it is EDAM/WEIM-only Entity) to submit Non-Participating DR Schedules for that LF zone.
		Core	ALFSSOA

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-04052	**Consume Non-Participating DR Schedules from EDAM Entity** System shall have the capability to automatically consume the following from EDAM Entities that plan to utilize DR that are not explicitly modeled in DAM/RTM (DRPs that are not able to be represented by the PDR or RDRR models) for Load Forecast (LF) zones that have enabled DR Inclusion Flag and confirmed DR Performance Factor option, using similar mechanism as receiving existing LF: • Non-Participating DR Schedules **Notes** • EDAM Entity shall include CAISO BAA. • Remove the threshold 5% of LF for DR inclusion • EDAM Entity by default is WEIM Entity too and all rules applicable to WEIM RSEE requirements shall be applicable to the EDAM Entities. • Submitted Non-Participating DR Schedules shall be in 5-min granularity and they are on-demand submission. • If 15-min granularity schedule is desired, participants shall enter same schedule for each 5-min within the corresponding 15-min. • If hourly granularity schedule is desired, participants shall enter same schedule for each 5-min within the corresponding hour. • The DRPs can be reflected as an increase in load that captures expected "pre-cooling" as well as a decrease in LF that reflects the DR event itself. • Currently, data is received by 8 am; receive time is being pushed up to 7 am	Core	ALFS ALFSSOA
EDAM-BRQ-04053	**For consideration in DA Demand Forecast Process, non-Participating DR Schedules shall be consumed from the EDAM Entity by 7am (8am submittals will be considered in exceptional circumstances).** • Any submittals after 8am cannot be incorporated into demand forecast adjustment	Business Process	ALFS ALFSSOA
EDAM-BRQ-04058	**Accounting for DR LF Adjustment in DA Demand Forecast Process** For each EDAM BAA, System shall utilize applicable business process to:	Core	ALFS

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted

	• Determine the performance factor
	    ○ The configurable DR Performance Factor will be used as part of monitoring and enforcing non-participating DR performance.
	• Apply a single DR Performance Factor to entire non-participating DR Schedule. The DR Performance Factor will be mapped at LF zone associated with EDAM BAAs.
	    ○ The DR Performance Factor can be updated per process set forth in BPM.
	    ○ The DR Performance Factor mapping would be maintained in system upstream of ALFS (IDR).
	• Include performance adjusted DR schedule in the load forecast (LF), eliminate the 5% threshold so that all submittals are included in ALFS LF after application of the non-participating DR Performance Factor
	• Refer to EDAM-BRQ-04041		

EDAM-BRQ-04060	**Broadcast Load Forecast (LF) with applicable DR Adjustment** Broadcast for BAA level and each LF zone that is associated with EDAM BAA and/or Sub-Entity, for the LF with DR adjustments (e.g., DR Performance Factor), same as existing broadcast for LF in DAM	Core	ALFS ALFS-SOA
EDAM-BRQ-04065	**When a CLAP level forecast exists for a BAA: distribute BAA level forecast to the CLAP levels using load distribution factors**	Existing	ALFS
EDAM-BRQ-04070	**Support additional FSP reports (VER, BTM, and weather forecasts)** Consume from FSP additional reports	Business Process	ALFS

Copyright 2023 California ISO

5.3 Business Process: Manage BAA Requirement Calculation

- Extend IRU/IRD requirement forecast parameters estimation to EDAM BAAs and entire EDAM footprint using quantile regression model for DAM trading day
- Extend DAME IRU/IRD demand price curve to EDAM BAAs
- For the WEIM-RSE: treat EDAM pool as a super BAA, calculate the EDAM-pool up and EDAM-pool down FRU/FRD requirement forecast parameters estimation
- Include EDAM pool that passed WEIM-RSE in the passing group
- For the EDAM pool failed WEIM-RSE: break pool into AET/non-AET and calculate FRU/FRD requirement forecast parameters estimation
- Consume and store the EDAM load and VER forecasts 365 days prior to EDAM activation

5.3.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-05020	**Extend IRUR/IRDR parameters estimates for each EDAM BAA and entire EDAM footprint, broadcast at 6 am of Day-ahead** - Extend IRUR/IRDR parameters estimates for each EDAM BAA and entire EDAM footprint	Core DAME The detailed requirements are specified in the DAME BRS	Internal ISO System
EDAM-BRQ-05050	**Extend calculation of hourly IRU/IRD demand price curve for IRU and IRD for each BAA using latest (9 am) forecast of Day-ahead** - Consume the hourly demand, solar and wind forecast at 9 am for DAM time horizon, aggregated for each BAA. - Calculate IRU/IRD demand price curve for each hour interval for each BAA in the EDAM Area - Broadcast IRU and IRD demand price curve after 9 am and before 10 am Demand price curve is for IFM, the DA-RSE uses penalty cost for IRUR/IRDR	Core DAME The detailed requirements are specified in the DAME BRS DAME-BRQ-02320	Internal ISO System
EDAM-BRQ-05060	**FRUR/FRDR parameters estimates for each 15min interval of the Trading Hour (TH) for EDAM BAAs up/down pools for WEIM RSE at TH-5hr**	Core FRP deliverability BRS	Internal ISO System

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• System consumes from SIBR the EDAM up/down pools associated BAAs • System estimates parameters by using the pooled BAAs historical uncertainty data. System will always regress and calculate the second order polynomial coefficients data for the pool of EDAM BAAs as a super BAA • Merge 15min net demand/solar/wind data adjusted forecast uncertainty and advisory forecast for the trading hour in the Data Retention Period for the Day Type of the Trading Day of the trading Hour for the group of BAAs in the EDAM pool • Calculate net load high/low (P99/1) threshold, calculate Histogram (P97.5/2.5) and the second-order polynomial coefficients ($A_{15}^{P97.5/2.5}, B_{15}^{P97.5/2.5}, C_{15}^{P97.5/2.5}$) of the High/Low Percentile quadratic quantile regression of demand, solar, wind and net load, and MOSAIC for EDAM pool		
EDAM-BRQ-05062	**FRUR/FRDR parameters estimates for the passed group that include BAAs in EDAM pool that passed WEIM-RSE at TH-40** If EDAM pool as super BAA passed the WEIM-RSE, all the BAAs in EDAM pool will be part of the passing group. Parameter estimation for the passed group shall apply.	Existing FRP deliverability BRS	Internal ISO System
EDAM-BRQ-05070	**FRUR/FRDR parameters estimates for each 15min/5min interval of Trading Hour (TH) for AET sub-pool and non-AET sub-pool formed at TH-5hr** Consume the EDAM BAA AET sub-pool and non-AET sub-pool and associated group of BAAs for the trading hour • Merge 15min net demand/solar/wind data adjusted forecast uncertainty and advisory forecast for the trading Hour in the Data Retention Period for the Day Type of the Trading Day of the trading Hour for group of BAAs in AET sub-pool and Non-AET sub-pool • Calculate net load high/low (P99/1) threshold, calculate Histogram (P97.5/2.5) and the second-order polynomial coefficients ($A_{15}^{P97.5/2.5}, B_{15}^{P97.5/2.5}, C_{15}^{P97.5/2.5}$) of the High/Low Percentile quadratic quantile regression of demand, solar, wind and net load, and MOSAIC for each sub-pool	Core	Internal ISO System

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted

EDAM-BRQ-05075	**FRUR/FRDR parameters estimates every Hour (TH) of trading day for EDAM pool upward/downward and AET sub-pool and non-AET sub-pool formed at the time DAM result posted**
	
	• Consume IFM and RUC PBC surplus variable values for each EDAM BAA from market for each hour
	
	• Consume the BAA AET options from MF
	
	• Form the EDAM pool composition:
	
	    ○ The EDAM BAAs that have the PBC surplus variable non positive values composite the EDAM Upward pool
	
	    ○ The EDAM BAAs that have the PBC surplus variable non negative values composite the EDAM downward pool
	
	    ○ The BAAs in EDAM Upward pool that option AET form the AET sub-pool
	
	    ○ The BAAs in EDAM Upward pool that option non-AET form the non-AET sub-pool
	
	• Use same method to estimate FRUR/FRDR parameters every Hour (TH) of trading day for the EDAM upward pool, downward pool, AET sub-pool and non-AET sub-pool
	
	• Broadcast 15min interval of each hour's Histogram, second-order polynomial coefficients, net load uncertainty threshold for each pool and sub-pool
	
	Note:
	
	This process will occur right after the DAM run finishes, therefore providing EDAM entities with advisory FRP parameters soon after the DAM runs
		Core	Internal ISO System

EDAM-BRQ-05080	**System shall consume and store EDAM VER and load DAM forecast data prior to EDAM activation** • Consume/store trading day of DAM load, wind, solar forecast for EDAM BAA data in retention period (default 365 days), broadcasted from the market **before** the activation of EDAM	Core	Internal ISO System

5.4 Business Process: Mange Default Energy Bids

- Calculate DEB, DAB, and GHG cost for EDAM resources

- Update GMC

5.4.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted

EDAM-BRQ-08010	**Extend DEB and reasonableness threshold DEB to EDAM resources**
	
	• Provide DEB and reasonableness threshold DEB for all resources in all EDAM BAAs, by default, all the resources in the EDAM BAA
	   o Maintain existing logic when determining which resources the system shall calculate a DEB for
	   o Include appropriate GHG cost for resources located within a GHG area (i.e. WA GHG cost for resources in WEIM WA GHG Area, CA GHG cost for resources in CA GHG area)
		Existing	Internal ISO System

EDAM-BRQ-08020	**Determine maximum GHG Bid adder Eligibility** • Calculate maximum GHG bid adder for resources when the following conditions are met: o Resource is not located within a GHG regulation area Note: Maximum GHG Bid adder=GHG bid cap	Core	Internal ISO System

EDAM-BRQ-08030	**Calculate Resource maximum GHG bid adders for resources to serve load in EDAM GHG regulation areas**
	
	• Maximum bid adders shall be specific to each GHG regulation area (i.e. one set of maximum bid adders for each GHG regulation area)
	   o Use existing calculation methodology—use same external feeds as today
	   o Use WA GHG allowance price for WA, and CA GHG allowance price for CA
	   o A resource can serve multiple GHG regulation areas, so can have multiple maximum GHG bid adders.
		Core	Internal ISO System

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted

EDAM-BRQ-08040	**Include EDAM Administrative charge in non-CAISO variable cost-based DEBS for EDAM resources**
	
	• Variable Cost-based DEBs for non-CAISO EDAM resources should include the EDAM Administrative charge rate in both the DAM and RTM DEBs
	
	  o Use EDAM Administrative charge rate for EDAM resources, continue to use WEIM and CAISO Administrative charge rates accordingly
	
	    ▪ Access EDAM Administrative charge defined in MF
		Core	Internal ISO System

EDAM-BRQ-08050	**Extend IRU/IRD, RCU/RCD default availability bid (DAB) to EDAM resources** • Set configurable IRU/IRD, RCU/RCD default availability bid (DAB) to $55/MWh	Core	Internal ISO System
EDAM-BRQ-08060	**Obtain and store on-peak bilateral trading Mid-C, PV Hub prices** • Used for Settlements surcharge for the BAA failed DA-RSE • Bilateral trading Mid-C, PV Hub prices for DA-RSE deficit penalty calculation	Core	Internal ISO System
EDAM-BRQ-08070	**Extend existing DEB, reasonableness threshold DEB, and GHG data for EDAM Resources** • DEB • Reasonableness threshold DEB • GHG startup cost curve • GHG min load cost • GHG energy component • DAB for IRU/IRD, RCU/RCD	Core DAME	Internal ISO System
EDAM-BRQ-08080	**New GHG related data:** • Most recent Resource maximum GHG bid adders for each GHG area Note for GHG areas: WA and CA may have different maximum GHG bid adders	Core	Internal ISO System
EDAM-BRQ-08130	**Update Administrative charge rate for EDAM and apply to EDAM resources** • Access the EDAM Administrative charge data from MF	Core	Internal ISO System

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted

	• Use EDAM Administrative charge to calculate variable cost based DEB
	  ▪ For EDAM use EDAM Administrative charge
	   ○ All resources in EDAM BAA are EDAM participating resources—use BAA EDAM participating flag to determine the resources subject to the EDAM Administrative charge
	  ▪ For WEIM, only use WEIM Administrative charge		

EDAM-BRQ-08132	**Prepare GHG price of GHG area** • GHG area GHG price (GHGasm-1) for the previous month, average greenhouse gas allowance price from prior month • GHG area GHG price (GHGast,y-1) for the previous year, average greenhouse gas allowance price from prior year. • GHG area GHG price (GHGasm-12) for the monthly average greenhouse gas allowance price from the previous year's period, m-12	Core	Internal ISO System

EDAM-BRQ-08135	**Expand existing WEIM negotiated DEB (NDEB) calculations to EDAM entities**
	  • Extend negotiation, testing, implementation, and production of NDEBs to EDAM entities
	  • No changes to existing WEIM entity NDEBs
	  • Broadcast EDAM NDEBs to downstream systems
	 Note: Business Process: DMM shall reach out to new EDAM entities with existing WEIM NDEBs to confirm/renegotiate DAM NDEB
		Core	Internal ISO System

5.5 Business Process: Manage Bid Submission and TSR Submission (SIBR)

- Facilitate EDAM resource bid submission in SIBR to participate the DAM market, similar to ISO resources

- Facilitate the DA TSR schedule and limits submission, with MF defined attribution for RSE, and deemed pathway for TSR with CRN in SIBR

- Facilitate late schedule for CRN through RTSI

- Facilitate EDAM BAA AS requirements in SIBR

- Facilitate dynamically formed DA TSR ID in SIBR

- Allow transaction ID location at DGAP or super DGAP

- Facilitate EDAM entity, on behalf of transmission right owner, to submit new CRN definition for each sale by 9 am in DAM, and by TH-90 min in RTM

- Allow SC of resources that sell CRN to submit self-schedules associated with corresponding new CRN in the DAM or RTM

5.5.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-11000	**EDAM resources participate in DAM market, similar to ISO resources** General statement: DAM validation rules for CAISO apply to EDAM	Business Process	SIBR
EDAM-BRQ-11010	**Access Master file definition and association for EDAM:** • EDAM entity, EDAM BAA and EDAM/WEIM entity SC and resource SC definition and association •	Core	SIBR (from MF)
EDAM-BRQ-11011	**Access EDAM BAA Convergence Bidding participation flag from Master file** • Access EDAM BAA CB participation flag • Access registered location, position limit, nodal constraint that are applicable for the EDAM BAA that elect CB	Core	SIBR (from MF)
EDAM-BRQ-11012	**Access resource eligibility flags** Access EDAM resource participation, RSE flag and eligibility flags on market product EN/AS/IR/RC from Master File, in the same manner as ISO resources	Core	SIBR (from MF)

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-11013	**Access intertie resource eligibility flags** Access intertie resources an, RSE flag, bid eligible flags for bids, or self-schedule only from Master File	Core	SIBR (from MF)
EDAM-BRQ-11014	**Access DA TSR and attributes** Access DA TSR and RSE flag, contract number (CRN), and limits from MF	Core	SIBR (from MF)
EDAM-BRQ-11015	**Access GHG area and associated resources** Access the defined GHG area, mapping of resources associated with the GHG area, the CLAP associated with the GHG area, GHG pseudo tie flag from Master File, and resources that are dynamically scheduled into a BAA that overlaps with a GHG regulation area	Core	SIBR (from MF)
EDAM-BRQ-11020	**Allow EDAM LSE SC to submit non-participating load resource bids** • Allow EDAM LSE SC to submit non-participating load resource bids modeled with up to 10 segments monotonically decreasing for EDAM BAAs, same as demand resource bids for ISO BAAs Note: The Participating Load in the CAISO Markets, like Generation by submitting Supply Bids when offering Curtailable Demand and as non-Participating Load by submitting Demand Bids, are to be consumed in the Day-Ahead Market only	Existing	SIBR
EDAM-BRQ-11022	**Inter-SC Trades shall not apply to EDAM** • EDAM Entity SC, EDAM LSE SC EDAM Resource SC and other SCs in the Extended Day-Ahead Market may not submit Inter-SC Trades for transactions outside the CAISO BAA, and Section 28 will not apply to the Extended Day Ahead Market Notes: • Market will continue support Inter-SC trades in CAISO BAA • This rule is consistent with the EDAM tariff; however, the prohibition remains under review and may be removed from the tariff prior to implementation.	Core	SIBR

	Template Version:	6.8
Technology	**Document Version:**	**1.2**
Extended Day Ahead Market Business Requirements Specification - Planning	**Date Created:**	**8/1/2023**

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-11030	**Extend energy and commitment bidding rules found in DAME for supply resource hourly bids and/or Self-Schedule (SS) to EDAM** Note**:** For the determination of Proxy Start-Up Costs, Proxy Transition Cost and Proxy Minimum Load Costs (and associated Default and Reasonableness Threshold values), the CAISO will utilize the Market Services Charge and System Operations Charge reflected in the EDAM Administrative Charge defined in MF	Core DAME	SIBR
EDAM-BRQ-11040	**Extend ISO DAME rules for eligible resources to submit resource DAM hourly IR/RC bids to EDAM**	Core DAME	SIBR
EDAM-BRQ-11050	**Extend Resource SC of ISO to submit hourly Energy, IR/RC bids for Dynamic and Pseudo-tie resources to EDAM**	Core DAME	SIBR
EDAM-BRQ-11054	**Include ISO Scheduling Point (SP) associated to non-EDAM DGAP in Transaction ID** - Access MF defined eligible SP for ISO and SP to DGAP association. The SP has one-on-one association with DGAP or SDGAP for Transaction ID. - Access MF defined DGAP-TIE, SDGAP-TIE mapping - Access MF defined TIE-ITC mapping - Allow SC to submit transaction ID applicable attributes for import/export between ISO and non-EDAM BAAs, same as current process. - The transaction ID attributes include the location (DGAP/SDGAP/Cnode), - Pick the intertie that is associated with the SP that the transaction ID resource is schedule on - Intertie Transactions for import/export schedules at CISO Scheduling Points from/to non-EDAM BAAs in DAM will specify the DGAP of the source/sink non-EDAM BAA	Core	SIBR

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-11054a	**Support ISO transaction ID associated to non-EIM BAA DGAP in RTM** • Intertie Transactions for import/export schedules at CISO Scheduling Points from/to non-EIM BAAs in RTM will specify the DGAP of the source/sink non-EIM BAA	Core	SIBR

EDAM-BRQ-11055	**Support Transaction ID for EDAM intertie import/export resource between EDAM BAA and Non-EDAM BAA**
	
	• Allow EDAM SC to submit attributes to form transaction ID as import/export between EDAM BAA and non-EDAM BAAs
	
	    ○ Same as ISO intertie transaction ID, attributes include: SCID, Location ID, SP, Direction, bid type, intertie ID, Energy Type, PSE
	
	    ○ Extending rule for ISO transaction ID to EDAM transaction ID-
	
	• The transaction ID that include the SP with association to non-EDAM DGAP or Super DGAP (SDGAP) will use DGAP or SDGAP as injection location in the market
	
	• For the transaction ID for which the non-EDAM BAA is WEIM BAA, WEIM BAA shall register mirror resource in MF and submit the Mirror schedule base schedule in RTM
	
	• Support for new System Resources or Intertie Transactions for import/export schedules at EDAM interties from/to non-EDAM BAAs in DAM at the source/sink BAA
	
	• Existing System Resources and support for Intertie Transactions for import/export schedules at EIM interties from/to non-EIM BAAs in RTM at the source/sink BAA DGAP will be preserved
		Core	SIBR

EDAM-BRQ-11055a	**Not support transaction ID between EDAM BAAs, between WEIM BAAs** • No support for System Resources or Intertie Transactions for import/export schedules at CISO Scheduling Points from/to EDAM BAAs in DAM; EDAM Transfers will be used instead	Core	DAM

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• No support for System Resources or Intertie Transactions for import/export schedules at CISO Scheduling Points from/to EIM BAAs in RTM; Dynamic Transfers will be used instead		
EDAM-BRQ-11058	**WEIM entity shall submit base schedule as mirror for DA schedule with EDAM BAA** WEIM BAA shall submit base schedule Mirror • Any DA import/export schedule from/to an EIM BAA to/from an EDAM BAA must be mirrored in the WEIM with an export/import MSR at the same location (the EIM BAA DGAP). If a SDGAP is used, the schedule must be bought back in RTM and replaced with one where the source/sink BAA	Core	BSAP
EDAM-BRQ-11058a	**Auto-MSR shall auto-mirror all the DA schedules that have same DGAP-SP-Tie** For Auto-MRS shall match the total energy schedule of the system resources at same DGAP-SP-tie as MSR, include SR defined in MF or Transaction defined in SIBR, and not associated with other MSR that submitted by WEIM entity. Note: see EDAM-BRQ-16016	Core	BSAP, RTBS
EDAM-BRQ-11059	**For the DA schedule using SDGAP, enforce buy back in RTM** • For the DA schedule between EDAM BAA and non-EDAM BAA that use SDGAP, the schedule must be bought back in RTM o Set the DA schedule at 0 in RTM • The SC of the DA schedule can replace by submitting self-schedule where the source/sink at BAA actual location using DGAP Note: Market Operations BPM will include SDGAP DA schedule related rule	Core	SIBR
EDAM-BRQ-11060	**Support EDAM system resource (SR) self-schedule Energy, continue to support ISO intertie SR bids** • Continue existing energy economic bids or self-schedule at ISO interties between the ISO BAA and non-EDAM BAAs	Core	SIBR

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• Allow EDAM resource SC to submit self-scheduled energy for import/export resource, include transaction ID resource between EDAM BAA and non-EDAM BAAs • Self-schedule import/export with RSE flag will be counted in DA-RSE ○ Import/export resource must be defined in MF with RSE flag • Other self-schedule import/export, without RSE flag defined in MF, will not counted be in RSE • Transaction ID shall not be RSE eligible		
EDAM-BRQ-11070	**Allow eligible EDAM OATT network resource economic bids for energy, IRU/IRD, RCU/RCD** • Access EDAM BAA's network resource under OATT defined in MF as **TG**), RSE flag and eligibility flags from MF • Allow resource submitted economic bids for energy, IRU/IDR, RCU/RCD if eligible • OATT network resource with RSE flag shall be counted in DA-RSE	Core	SIBR
EDAM-BRQ-11080	**Support EDAM MF defined system resource (SR) as eligible resource self-provision AS** • Continue ISO existing AS economic bids or self-provision AS at ISO intertie between the ISO BAA and non-EDAM BAAs • Allow EDAM resources to submit self-provision for AS for import/export resource between EDAM BAA and non-EDAM BAAs. Only MF defined resources and TG resources that are eligible for AS can submit self-provision AS. Only AS self-provision is allowed, no AS economic bid for other non-ISO EDAM BAAs.	Core	SIBR
EDAM-BRQ-11090	**Support eligible ISO intertie system resource economic bids for IRU/IRD, RCU/RCD** • Allow MF defined eligible system resources between ISO and non-EDAM BAAs submit IRU/IRD and/or RCU/RCD economic bids ○ Transaction ID resource is not eligible for IRU/IRD, RCU/RCD	Core	SIBR

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• Do not allow self-schedule for IRU/IRD, RCU/RCD		
EDAM-BRQ-11092	**Support eligible EDAM BAA network resource economic bids** • Allow MF defined network resource (modeled as TG) between other EDAM BAA and non-EDAM BAA that are eligible for IRU/IRD, RCU/RCD to submit economic bids	Core	SIBR
EDAM-BRQ-11099	**System shall consume Resource maximum GHG bid adders**	Core	SIBR
EDAM-BRQ-11100	**GHG Bid submission and validation** • Allow Resources outside of the GHG area to submit separate GHG hourly bids (≥0) for each GHG regulation area • GHG pseudo-tie shall not submit GHG bids for the area it is pseudo-tie to. They can submit GHG bid for other GHG area • Energy bid range must be equal to or exceed the GHG bid MW	Core	SIBR
EDAM-BRQ-11101	**Maximum GHG Bid Adder** • Apply the GHG regulation area specific maximum GHG bid adder	Core	SIBR

EDAM-BRQ-11102	**Enforce the Bid Cap for Energy bid plus GHG bid**
	
	• For each GHG bid for each GHG area: the sum of the GHG Bid Adder price and the Energy Bid price may not exceed the Soft Energy Bid Cap, unless the sum of a resource's maximum GHG bid adder and *revised* Default Energy Bid exceeds the Soft Energy Bid Cap
	
	    o In this case, the sum of a resource's GHG Bid Adder and Energy Bid price may not exceed the sum of the maximum GHG bid adder and the resource's revised Default Energy Bid or the Hard Energy Bid Cap, whichever is lower
	
	    o A revised default energy bid is the result of a manual (via Internal ISO System) or automated (via SIBR) reference level change request
	
	Notes:
		Core	SIBR

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• This supersedes the existing rule that the sum of the EIM GHG bid adder and energy bid may not exceed the soft offer cap • This is a validation rule (bid becomes invalid when limit is exceeded), not a capping rule For all examples below: -Soft offer cap=$1000 Hard offer cap=$2000 -Resource has maximum GHG bid cap of $30 to serve load in CA -Resource has maximum GHG bid cap of $50 to serve load in WA Example 1 - No reference level change request submitted: If resource submits a bid for only CA, the energy bid is limited to $970. If the resource submits a bid for CA and WA or only WA, the energy bid is limited to $950. Example 2: Resource submits revised DEB of $1200: If resource submits a bid for only CA, the energy bid is limited to $1200. Example 3: Resource submits revised DEB of $1990: If resource submits a bid for only CA, the energy bid is limited to $1970.		
EDAM-BRQ-11103	**Broadcast resource GHG bids** • Broadcast resource GHG bids for each GHG regulation area as a part of clean bid	Core	SIBR
EDAM-BRQ-11106	**Broadcast All CRN MW Entitlements** System shall broadcast all CRN MW entitlements with their respective self-schedules at CRN granularity (either parent or sub) after Day-Ahead and Real-Time Market close ○ 0...1 CRN entitlement limits associate with 1 self-schedule	Core	SIBR

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-11110	**Allow Resource to submit bids to support DA RSE** • Resource SC shall submit updated bids or self-schedule to support DA RSE between 6 am to 10 am Note: Allow all RSE resource energy bids or self-schedule counted in RSE Allow all RSE resource IRU/IRD bids counted in RSE	Core	SIBR
EDAM-BRQ-11112	**Broadcast updated resource bids to support advisory and binding RSE between 6 am and 10 am** • SIBR broadcast all resource available bids at least every 30 minutes between 6 am and 10 am to support DA-RSE	Core	SIBR
EDAM-BRQ-11120	**Consume Resource Convergence bids (CB)** • Access MF EDAM CB option • Allow SC to submit resource convergence bids (CB) for the BAA that option-in CB, (currently only ISO) • The CB bids are subject to suspension or limitation	Core	SIBR
EDAM-BRQ-11130	**EDAM entity shall submit AS requirements:** • EDAM entity SC shall submit AS (Regulation Up/Down, Spin/NSpin) requirements of EDAM BAA • System shall continue to use ASRS (AS requirement setter) for ISO AS requirements	Core	SIBR AIM

EDAM-BRQ-11140	**Support dynamically created DA TSR resource ID to support new CRN sale**
	• Allow EDAM entity to submit TSR attribute to form dynamic transfer resource ID (TSR), system will create the paired TSR automatically
	  o Path: From BAA, intertie, to BAA, E/I from eligible BAA, path defined in MF
	  o Same SC of CRN for both TSRs
	Note: Dynamically created TSRs are to support the dynamically created new CRN for the sales of transmission rights
		Core	SIBR

EDAM-BRQ-11150	**Allow EDAM entity to submit TSR hourly limits** • Access MF defined TSR with attributes: CRN, RSE flag	Core	SIBR

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• Allow EDAM entity SC of designated TSR to submit hourly limit for trading day and up to 7 days in advance, paired TSR will have the same limit with different direction o Allow both EDAM entities of TSR to submit limit, system will use min of both o Allow the both EDAM entities to access through API/UI the TSR scheduling limit		
EDAM-BRQ-11150a	**Allow EDAM entity to submit TSR with RSE eligible Ancillary Services (AS) self-provision** • For the TSR RSE eligible resources, allow EDAM entity to submit self-provision for Reg Up, Reg Down, Spin, Non-Spin, same as for other system resource	Core	SIBR
EDAM-BRQ-11170	**Transmission customer SC shall submit self-schedule (SS) before DAM close at 10 am for DA TSR with CRN** • TSR with CRN shall only be for energy • SC shall submit valid self-schedule energy for TSR with CRN TOR/ETC/OATT 1/OATT 2 no later than 10 am • The existing validation and treatment in market and Settlements for TOR/ETC/OATT 1/OATT 2 CRNs are applicable: o Must be valid, balanced and not higher than the CRN entitlement o If the validation fails, all self-schedules under that CRN will be converted to regular price-taker (PT) self-schedules with no higher scheduling priority and any financial rights will be voided	Core	SIBR
EDAM-BRQ-11172	**For SC released capacity for TSR with CRN by 9 am, system shall deem it pathway 2**. • Transmission customer SC shall submit in SIBR to release a portion of or whole capacity of TSR with CRN no later than 9 am • System shall validate the released capacity plus the self-schedule to not exceed CRN, and deem the TSR of the released capacity as pathway 2 o After 9 am, do not allow SC to self-schedule on pathway 2 released capacity in DAM and RTM.	Core	SIBR

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• Include pathway 2 as part of clean bid attribute		
EDAM-BRQ-11174	**If SC released capacity for TSR with CRN after 9 am, system shall not mark the capacity** • For SC submission in SIBR to release amount of capacity for TSR with CRN after 9 am but not self-scheduled (SS), System shall not mark the capacity. The capacity released after 9 am is not pathway 2.	Process	SIBR
EDAM-BRQ-11176	**EDAM entity shall submit late self-schedule in RTM on behalf of transmission customer SC for TSR with CRN capacity that is not pathway 2** • After 10 am and before the trading hour RTM closes, EDAM entity SC shall submit SS through RTSI in RTM, allow transmission customer to late schedule the TSR capacity that has not been released Notes: • Only EDAM entity SC can submit the TSR with CRN late self-schedule into the RTM, Transmission customer SC must communicate late schedule with EDAM entity • The RTM will accommodate the transmission rights for the TSR with CRN SS and late SS in the same manner, the TSR with CRN late SS will have equal priority to cleared Day-ahead Schedules.	Core	RTSI
EDAM-BRQ-11180	**EDAM entity shall submit DA TSR limits as unsold ATC** • EDAM entity submits TSR capacity for unsold ATC capacity Note: EDAM entity will use its own TSR to count the unused CRN capacity— portion or all up to on EDAM entity discretion Entity will submit late self-scheduled TSR with CRN through RTSI on behalf of CRN owner (EDAM-BRQ-11176)	Core Process	SIBR
EDAM-BRQ-11190	**Broadcast DA TSR pathway 2 and limits after DAM closes** • System shall broadcast SIBR submitted TSR, limit, and pathway 2 to the EDAM entities—both the from BAA and the to BAA Note: The RSE eligible TSR limit and the TSR with CRN self-schedule are counted in RSE.	Core	SIBR

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-11210	**Resource energy and capacity bid into IFM must bid in RCU/RCD; the economic energy bid must cover the range of capacity bids** For resources in EDAM: • For all supply resource, except VER, energy and capacity bid into the IFM is also bid into the RCU/RCD • The economic energy bids shall cover the bid range of IRU/IRD and AS • For ISO RA resource, MOO in RUC Note: VER capacity extend to forecast in RUC for RCU, VER capacity extend to forecast in RSE	Core DAME	SIBR

EDAM-BRQ-11220	**RTM must offer obligation (MOO) for EDAM awards**
	
	• All Energy, AS, imbalance reserve and reliability capacity awards in the EDAM have a must offer obligation in the WEIM in RTM, must bid energy to cover the awards range
	
	• If resource does not bid EDAM, award in RTM
	
	   o DAM energy award will be self-scheduled minus IRD minus RCD
	
	   o Extend the DEB to cover the range of AS and IR and RC awards
	
	Ex: IFM EN=50 MW, IRU=10MW, IRD=10MW,
	
	RTM: SS 40 MW, bids for 40 MW to 60 MW
		Core
		DAME
			SIBR

EDAM-BRQ-11222	**Treat DA Energy TSR awards same as base transfer in WEIM** • No bid insertion for DA TSR • DA energy TSR awards are modeled same as base transfer in RTM • The DA TSR capacity awards for IRU/IRD, RCU/RCD are not relevant to WEIM Note: Any adjustment is via ITS tag in RT	Process	SIBR
EDAM-BRQ-11230	**EDAM entity shall not submit base schedules in WEIM** • An EDAM Entity will not submit WEIM Base Schedules. Instead, the Day-Ahead Schedules for the EDAM Entity Balancing Authority Area will be used for the WEIM Entity Balancing Authority Area in the Real-Time Market	Core	BSAP

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted

EDAM-BRQ-11250	**EDAM entity shall create a new CRN to represent each sale by 9 am in DAM and TH-90min in RTM**
	
	• EDAM Entity SC shall submit a transient contract definition (CRN) that represents a Transmission Service Provider (TSP) selling its rights in DAM by 9 am and RTM by TH-90 min
	
	    ○ Each individual sale will be defined as a different unique CRN
	
	    ○ The system will not validate the CRN, the TSPs and EDAM Entities ensure to accurately submit this information
		Core	SIBR

EDAM-BRQ-11260	**EDAM entity submitted CRN for each sale must define valid CRN attributes:** 1. Unique CRN identifier (with Start/End dates) 2. Type: TOR/ETC/OATT 1/OATT 2 3. Physical Right Y/N indicator: Y allows higher priority (TOR/ETC/OATT1 /OATT 2) self-schedules 4. Financial Right Y/N indicator: Y provides a hedge for marginal congestion and/or losses 5. Entitlement: the maximum volume of transmission rights (this may be an hourly vector) 6. Expiration Time: the last time the contract can be exercised (DAM, HASP, T−20) 7. List of associated supply/demand resource identifiers (multiple sources and sinks) and their corresponding contract capacity; they can be registered to different SCs; all sources must reside in the same BAA in the market footprint; all sinks must reside in the same BAA in the market footprint (it can be a different BAA than the one with the sources); if the sources and sinks reside in different BAAs, the contract must also specify intermediate TSR identifiers for a transfer (or a chain of transfers) between these BAAs (and intermediate BAAs in the market footprint); 8. Optionally, a single financial source and a single financial sink (PNode or APNode) to be used for the financial right instead of the relevant source/sink resource locations; any transfer revenue across TSRs is always handled separately; the TSRs are always	Core	SIBR AIM

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	intermediate financial locations and there is no need to explicitly define them as such 9. A single Financial SC to receive the financial right if multiple SCs exercise the contract.		
EDAM-BRQ-11270	**SC of associated resource shall submit Self-schedule associated with the corresponding CRN in the same manner as normal CRN:** Treat each CRN as an independent CRN, existing CRN function in DAM and RTM are applicable: • The contract can be exercised by SC submitting balanced self-schedules for associated resources that do not exceed the individual contract capacities, and in aggregate the entitlement. • If the high priority self-schedules are not balanced (in DAM) or they violate the entitlement, they are converted to regular (PT) self-schedules (the financial right still applies to the balanced portion in settlements) • In RTM, there are no load schedules, thus load meters are used instead • For transit CRNs, it is the responsibility of the SC(s) to exercise the contract within its applicable entitlement, reflect derate • Specifically and only for TSRs, unused entitlement (above any submitted self-schedules) can be released to the market; Note: See Appendix A7: Transmission Right sales example	Existing	SIBR
EDAM-BRQ-11280	**SIBR will consider resource Pmin for Flexible RA capacity**	Core	SIBR

EDAM-BRQ-11290	**EDAM entity to activate hourly Net export transfer out constraint, CF, and RM**
	
	• EDAM entities activate the constraint for selected hours of the day, and submit
	
	   o Confidence Factor (CF) (between 0 to 1))
	
	   o Hourly Reliability Margin (RM)
		Core	SIBR

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-11291	**SIBR to report on the EDAM entity submitted hourly net export transfer out constraint, CF, and RM** • Hourly Net export transfer out constraint Status • Confidence Factor (CF) (between 0 to 1)) • Hourly Reliability Margin (RM)	Core	SIBR
EDAM-BRQ-11295	**Allow EDAM Entity to access to resources and intertie submitted bids for RSE in the BAA** • Entity will have access to individual resource submitted clean bids, without pricing information, associated with the EDAM Resources within the Balancing Authority Area it represents and at EDAM Interties with other Balancing Authority Areas • The entity is able to see the bid capacity data per hour, for example if the SC bids 0-320 using a 10 bid segment, the entity would see 320MW bid capacity from the resource	Core	SIBR

5.6 Business Process: Manage DAM Resource Sufficiency Evaluation (DA-RSE)

- Consume hourly Histogram and second-order polynomial coefficients for IRU/IRD

- Calculate/broadcast every 30 min, between 6 and 9 am, the hourly IRU/IRD requirements based on the latest forecasts

- Adjust each EDAM BAA's IRU/IRD Requirements according to the operator specified diversity benefit (DB)

- Adjust and broadcast each EDAM BAA's hourly requirements by RSE eligible transfer limits from sink to source BAA

- Every 30 minutes (timeframe is configurable), run DA-RSE optimization using the latest bids and without transmission constraints. Use penalty cost for IRU/IRD in RSE

- Manage DA-RSE Inputs: use 9 am forecasts and requirements, use 10 am bids for 10 am binding DA-RSE

- Identify the hourly results of success or fail and deficiency of the DA-RSE for each EDAM BAA

- Broadcast DA-RSE hourly results for each EDAM BAA and resource

5.6.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-12008	**Access Master file definition and association for EDAM:** • Resource RSE flag for DA-RSE • DA TSR, RSE, associated flags, contract number (CRN) and limits • GHG regulation area for DAM and RTM and resource association, GHG clap split on state boundary, GHG bids option flag of EDAM BAA, GHG pseudo-tie flag, and resources that are dynamically scheduled into a BAA that overlaps with a GHG regulation area • BAA AET options	Core	DAM DA-RSE (from MF)
EDAM-BRQ-12011	**Consume TD hourly Histogram and the second-order polynomial coefficients for each EDAM BAA and EDAM footprint from Internal System** Note: data include: ○ the High/low Percentile hourly forecast uncertainty histogram for net demand/demand/solar/wind ○ The second-order polynomial coefficients of the High/low Percentile quadratic quantile regression of hourly forecast uncertainty for demand/solar/wind/Mosaic (net load)	Core DAME	DAM DA-RSE

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	o The hourly High/low Percentile Threshold forecast uncertainty histogram for net demand o Threshold value of IRU and IRD requirements		
EDAM-BRQ-12016	**Use same load forecast (LF) for DA-RSE and DAM** • Market will receive the LF from ALFS, the LF will include DR adjustment (e.g., DR Performance Factor), if applicable • LF will be the same in DA-RSE and RUC	Existing	DAM DA-RSE
EDAM-BRQ-12016 D	**Calculate hourly IRU/IRD requirements for each EDAM BAA and EDAM footprint** • Calculate the hourly IRU/IRD requirements (IRUR/IRDR) between 6 am and 9 am, approximately every 30 minutes, using parameters and latest forecasts • Bound the hourly IRUR/IRDR by the thresholds consumed from Internal ISO System • Broadcast DAM the original IRU requirement (IRUR_{60}) and IRD requirement (IRDR_{60}) for each Trading Hour of the next Trading Day, for each EDAM BAA and EDAM Area **Notes** DA-RSE will use the adjusted IRU/IRD Requirements with Diversity Benefit. The market will publish the original requirement	Core	DAM DA-RSE
EDAM-BRQ-12017	**The DA-RSE will automatically run approximately every 30 minutes between 6AM and 9:30AM with the latest consumed dataset.**	Core	DAM DA-RSE
EDAM-BRQ-12020	**After configurable 9:30 (approximate) RSE run the DA-RSE can be manually run using the latest consumed dataset.**	Core	DAM DA-RSE
EDAM-BRQ-12023	**Extend to EDAM Calculate hourly IRU/IRD requirements for EDAM BAA for every RSE run** • Calculate the hourly IRU/IRD requirements (IRUR/IRDR) with every DA RSE run	Core DAME	DAM DA-RSE

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	o Calculate IRUR/IRDR for gen-only BAA using same method that incorporate the Variable resource uncertainty only • Bound the hourly IRUR/IRDR by the thresholds consumed from Internal ISO System		
EDAM-BRQ-12025	**Adjust each EDAM BAA's IRU/IRD Requirements according to diversity benefit (DB) operator specified portion** • Calculate Diversity Benefit as difference between sum of individual BAA IRU/IRD requirement and requirement of entire EDAM footprint • Specify configurable parameters to specify portion of diversity benefit of IRU/IRD requirement, apply the IRU/IRD requirements in RSE and IFM for EDAM BAAs • Include diversity benefit that pro-rata allocated according to original requirement, for each EDAM BAA. • Display forecasted/adjusted IRUR, IRDR, DB	Core	DAM DA-RSE
EDAM-BRQ-12030 a	**Include TSR with CRN Self-schedule in RSE** The TSR associated with CRN that self-scheduled energy shall be included for DA RSE	Core	DAM DA-RSE
EDAM-BRQ-12040	**Include RSE eligible TSR AS self-provision and TSR limits from sink to source BAA in DA_RSE optimization** • Receive MF defined maximum capacity (Pmax) for the TSRs and the RSE eligibility flag • Receive EDAM entity submitted bid Capacity Limit (CL), which is the released transfer capacity to the market • Receive EDAM entity submitted self-provision of RU/RD/SR/NR $T_{j,t}^{(RU)} T_{j,t}^{(RD)} T_{j,t}^{(SR)} T_{j,t}^{(NR)}$) on TSR, just like any other resource • TSR remaining capacity $T_{j,t}^{(RSE)}$ under CL after AS self-provision will be used by RSE for optimized meeting of the requirement for energy and imbalance reserves • The TSR AS self-provision are placed on the right side of the constraint to reduce the AS requirement from sink BAA and to increase requirement to the source BAA o Self-provision TSR regulation down (RD) shall have energy to support, therefore, the RD TSR will be added in the right side of energy and IR constraints	Core	DAM DA-RSE

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• RSE remaining capacity is placed on the right side of the constraint to reduce the sum of energy and imbalance reserve requirement from sink BAA and to increase the requirement to the source BAA, plus the RD TSR • Use one upward / one downward relax variable for the BAA Energy and imbalance reserve Note: Any remaining capacity under the CL will be used by the RSE, and later by the IFM, for energy/IR co-optimization. Any remaining capacity can then be used in RUC for RCU. A TSR can have all commodities.		
EDAM-BRQ-12050	**Activate load modification by Demand Response in RSE** • For PDR, RDRR, use resource RSE eligible flag to determine if it counted in RSE, same as other supply resource • For demand response are **NOT** modeled as DAM supply resource (PDR,DDR) in the market, allow EDAM entity to submit the load adjustment (through ALFS, same as in WEIM, **subject to attestation**)	Core	DAM DA-RSE
EDAM-BRQ-12060	**Support multiple forecast zones in a EDAM BAA same as WEIM** • Support multiple forecast zones in a EDAM BAA same as WEIM • DA-RSE is on EDAM BAA level	Core	DAM DA-RSE

EDAM-BRQ-12070	**Set configuration and execution control for day ahead resource sufficiency evaluation (DA-RSE)**
	
	• System shall configure the run time, currently, run advisory DA-RSE every 30 minutes between 6 am and 10 am for each EDAM BAA, run binding RSE after DAM closed at 10am
	
	• System shall provide operation execution control, option to manually or automatic perform the DA-RSE,
	
	    o Configure the timing of Automatic execution of DA-RSE, default is every 30 minutes, starting at first advisory run 6 am, ending at 10 am for binding run
	
	        ▪ The DA-RSE will automatically run approximately every 30 minutes between
		Core	DAM
			
			DA-RSE

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	6AM and 9:30AM with the latest consumed dataset ▪ Allow manual run the DA-RSE using the latest consumed dataset for 10 am binding DA-RSE		
EDAM-BRQ-12080	**Run DA-RSE optimization without network** Use same optimization model used in IFM with following settings: • Objective function is to minimize the all surplus variables for each EDAM BAA i.e., all requirements (demand forecast, ancillary services, and uncertainty) to be satisfied • No NA: Exclude transmission related constraints, therefore nor need network application (NA) power flow. • Enforce all scheduling constraint for DA RSE: ITC/ISL/ACC/gas nomogram • Balance each EDAM BAA supply with the adjusted forecast demand and IRU/IRD requirements, and AS requirements. (note: adjust the requirements by counting the RSE eligible capacity and Diversity Benefit) • VER capacity extend to forecast in RSE in whole EDAM footprint • Optimize EDAM trading day 24 hours with all other constraints, including resource inter-tempo constraints. Note: Virtual bids are not eligible for RSE	Core	DAM DA-RSE
EDAM-BRQ-12090	**Run DA-RSE optimization for EDAM BAA in EDAM footprint** • Run DA-RSE optimization for entire (TBD: or each BAA) EDAM footprint by market operator • Not allow the economic transfer between the EDAM BAAs. RSE eligible transfer is preprocessed to move the requirement from sink BAA to source BAA • Model each individual BAA constraints for the power balance constraint to meet the demand forecast and meet the AS and IRU/IRD requirements by BAA	Core	DAM DA-RSE

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-12110	**Use penalty price for IRU/IRD in RSE** Replace the IRU/IRD demand curve with a configurable penalty price at the prevailing energy bid ceiling in RSE optimization • Define one penalty price for IRU, one penalty price for IRD, apply to all EDAM BAAs Note: to prevent the economic relaxation of IR requirement in RSE	Core	DAM DA-RSE
EDAM-BRQ-12150	**Recognize the resources with RSE flag, or with CRN that self-scheduled to count towards DA-RSE** • For all EDAM BAAs, the resource defined in MF with RSE eligible flag, count the resource bid range or self-schedule • In addition, for ISO, include bids range system resources (between ISO and non-EDAM BAAs) with RSE flag, • Include TG resource that include dynamic resource, network resource and pseudo-tie with RSE flag • For VER (with RSE flag in MF) in ISO and EDAM BAAs, use forecast as bid range. ○ Create default supply bids if no bid or extend bid-in bids for the difference between the bid-in and forecast quantity for use in the DA-RSE • TSR with CRN that self-scheduled (SS) shall count toward RSE	Core	DAM DA-RSE
EDAM-BRQ-12160	**The resources shall not count towards DA-RSE** • **No** Convergence bids (CB) for RSE • **No** load resource bids, use demand forecast • No transaction ID unless it with CRN SS • **No** optimizable TSR transfer (Implementation detail if we move requirement or SS)	Process	DAM DA-RSE
EDAM-BRQ-12170	**Include PT export, PT wheeling through ISO with non-EDAM BAA in RSE** • PT export must have RSE flag (MF) • PT wheel only model the wheel through ISO with non-EDAM BAA, include RSE for both PT import/Export (MF) Notes: EDAM entities seeking to utilize supply that wheels through the ISO system to support their RSE demonstrations would acquire high wheeling through scheduling priority across the ISO system to bring RSE eligible transmission to the EDAM BAA	Core	DAM DA-RSE

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	EDAM with PT wheeling will have RSE import and RSE export		

EDAM-BRQ-12180	**Identify the BAA the hourly results of success or fail DA-RSE**
	
	• RSE will evaluate every constraint listed below if it is relaxed for every BAA for every hour on the horizon.
	   o Energy Demand and IRU/IRD requirements constraint, up/down
	   o AS procurement constraints
	• The DA-RSE for the BAA is deemed as success if **no** constraint is relaxed (the surplus variables have positive values) for the hour
	• The DA-RSE for the BAA is deemed as failure if **any** requirement constraint is relaxed for the hour
	   o Calculate the each deficiency (deficiency of energy, IR, AS, upper/down), upper and down separately for each hour
		Core	DAM
			
			DA-RSE

EDAM-BRQ-12030	**Report DA RSE requirement movement between EDAM BAAs** • The RSE use RSE eligible TSR limit and TSR associate with CRN that self-scheduled to move the requirement between BAAs, from sink BAA to source BAA effectively by Energy Demand & IR up/down, AS • Display the table of requirement movement between BAAs to support bilateral outside trade every 30 minute between 6 am and 10 am by the transfer capacity for energy and IR, by the self-provision of AS transfer Note**:** The RSE requirement movement between BAAs will be reported on OASIS	Core	DA-RSE

Copyright 2023 California ISO

5.7 Business Process: Manage DAM (MPM, IFM)

- Accommodate disruption of EDAM BAAs in EDAM

- Consume EDAM entity activated transmission constraints for EDAM BAA from WebOMS

- Extend the DAM local market power mitigation (LMPM) for energy and IRU to each EDAM BAA—DAME

- Co-optimize energy supply/demand, CB, AS, IRU/IRD across the EDAM footprint

- Model EDAM Transfer resource TSR limits—allow TSR transfer energy, AS, IRU/IRD

- Enforce net transfer out limit

- Do not allow simultaneous relaxation of the PBC, IRU/IRD deployment, RCU/RCD and a net export transfer above resource eligible energy exported transfers

- Calculate/broadcast EDAM resource awards and LMPs

5.7.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-13020	**Consume EDAM entity submitted status of activated/deactivated constraints for EDAM BAA:** • Get the constraint default status from FNM build for the BAAs participating in EDAM • Consume EDAM entity update to the status of constraint from WebOMS, override the RTM constraint status in DAM o Flowgate and nomogram constraints for EDAM entities o Contingencies o Transmission conformance (flowgate limit change) • Consume net export transfer out constraint— EDAM entities activated the net export transfer out constraint for selected hours of the day and corresponding CF and RM from SIBR	Core	DAM (WebOMS) (SIBR)
EDAM-BRQ-13030	**Distribute IRUR/IRDR to EDAM load and VER nodes** • Use same IRUR/IRDR at 9 am calculated in DA-RSE • Calculate the IRU/IRD requirement allocation factors (AF) to demand, solar, and wind for each hour of the trading day for EDAM BAA based on high/low percentile of demand/solar/wind forecast uncertainty	Core DAME	DAM

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• Distribute the IRUR/IRDR to demand nodes superimposed on the load schedule • Calculate solar and wind Distribution Factors (DF) of each VER node proportional to the forecasts • Distribute the IRU/IRD requirement to VER nodes, superimposed on the VER schedule		
EDAM-BRQ-13040	**Apply IRU/ IRD demand price curve in optimization in MPM and IFM** • By 10 am, consume the IRU and IRD demand price curves $\{Q_k, P_k, k = 1,2, ..., n\}$ for each hour interval of the DAM market horizon for each EDAM BAA • Transform demand price curve to monotonically increasing price curve for surplus variables for IRU/IDR for each hour each BAA • Limit demand price curve by IRU/IRD cap prices	DAME	MPM, IFM

EDAM-BRQ-13050	**Suspension of EDAM Entity Participation and Transitional Process:**
	
	• Transitional protection:
	
	   o Pursuant to the terms of a Market Notice, temporarily suspend participation of that EDAM Entity in the Day-Ahead Market for a period not to exceed 60 days
	
	   o The EDAM entity suspend from EDAM shall be suspend from the WEIM for the same suspension period
	
	   o The EDAM entity that is suspended will not automatically fall back to NPM
	
	   o The CAISO may continue operation of the Day-Ahead Market without the participation of the suspended EDAM Entity
		Process	DAM

EDAM-BRQ-13052	**Disruption of EDAM BAA, in similar way as WEIM** • Enforce a net transfer constraint (lock TSR at RSE eligible (Lock RSE eligible TSRs) of the EDAM BAA of causing interruption, similar as for WEIM (downstream Settlements and price correction will be done based on administrative price and BAA contained).	Core	DAM, RTM, Settlements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	○ Disruption for EDAM BAA by day, not by hour ○ ETSR shall remain locked until Operator changes status • EDAM resources continue to bid in the DAM • Reduce or suspend EDAM Transfers between one or more Balancing Authority Areas in the EDAM Area with authorization from the impacted EDAM Entity • Instruct one or more EDAM Entities to maintain system balance within their Balancing Authority Area without Day-Ahead Market result • Suspend or limit the ability of all Scheduling Coordinators to submit Virtual Bids or • Postpone the publication of Day-Ahead Market results • DAM Settlements is applicable to EDAM BAA that is in disruption • If the interruption of EDAM Entity participation results in the EDAM Entity not receiving a Day-Ahead Market Schedule then the EDAM Entity must submit all Bids to the RTM. • The ISO could also exercise this measure to interrupt its own participation in the EDAM by isolating its BAA from the rest of the EDAM footprint and running the day-ahead market within its own BAA separate from the rest of the EDAM footprint by locking TSRs (continue optimize the EDAM as whole, settle by LMP for CAISO and EDAM BAAs) • Separated BAA shall not fall back to NPM Note: The CAISO will develop the procedure for EDAM in the similar manner for WEIM		
EDAM-BRQ-13054	**Transitional pricing** Extend WEIM transitional pricing measures (to not apply certain transmission constraints and relax transmission and/or PBC constraint) in EDAM to the same six-month period following onboarding	Core	DAM

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-13060	**Extend the DAM local market power mitigation (LMPM) for energy and IRU to each EDAM BAA.-DAME** • Apply LMPM for energy bid by Including IRU and IRD deployment scenarios in DCPA counter flow calculation and Energy LMP calculation, use same reference bus as in WEIM for the EDAM BAA • Apply LMPM for IRU bid by including IRU deployment scenarios in DCPA counter flow calculation and IRU nodal price calculation, broadcast mitigated bid	Core DAME	MPM
EDAM-BRQ-13060a	**MPM for Energy at the EDAM BAA level–Trigger DCPA for PBC** For each hour, evaluate the EDAM BAAs (non-CAISO BAA) After MPM-IFM run, compare the hourly Marginal Energy Cost (MEC) of each EDAM BAA with the CAISO BAA MEC • If (EDAM BAA MEC > CAISO BAA MEC), the EDAM BAA is subject to PBC DCPA test. MEC is the shadow price of BAA power balance constraint (PBC) • If (EDAM BAA MEC ≤CAISO BAA MEC), the EDAM BAA is not subject to PBC DCPA test	Core	MPM
EDAM-BRQ-13060b	**MPM for Energy at the EDAM BAA level– DCPA for PBC** For each hour, for the EDAM BAAs triggered for DCPA, evaluate if EDAM BAA PBC is an uncompetitive constraint, treat PBC as a binding constraint, use same DCPA calculation for residual supplier index (RSI) as for other binding constraints • If RSI <1, the EDAM BAA PBC deemed as uncompetitive constraint on hourly basis. Otherwise, the EDAM BAA PBC deemed competitive	Core	MPM
EDAM-BRQ-13060c	**Apply MPM for Energy at the BAA level-LMPM for EDAM resources** Calculate competitive LMP with uncompetitive PBC: • For the EDAM BAAs have interval uncompetitive PBC, exclude uncompetitive MCC, exclude the differential between EDAM BAA MEC and CAISO MEC from nodal LMP for competitive LMP calculation for all price nodes in the EDAM BAA that apply LMPM in DAM and RTM.	Core	MPM

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• For the EDAM BAAs with competitive PBC, exclude uncompetitive MCC from nodal LMP for competitive LMP, same as currently for all price nodes in the EDAM BAA. • Bid mitigation: If uncompetitive component LMP_i^{NC} > *Mitigation Threshold Price,* the resource bid would be mitigated to the higher of the default energy bid (DEB) and its competitive LMP. The bid mitigation apply to all the resources that subject to LMPM. Only mitigate resources that have net positive contribution to the LMP Ex1: For hour h, EDAM BAA MEC is $25, ISO MEC is $20, do RSI, if RSI<1, EDAM BAA PBC is uncompetitive EDAM BAA nodal i competitive MCC is $1. Calculate nodal i competitive LMP $21. Mitigate every resource at nodal i in EDAM BAA that is higher than max ($21, DEB)		
EDAM-BRQ-13060d	**Apply MPM for IRU at the BAA level, similar method as for Energy** • Trigger for IRU DCPA: After MPM-IFM run, if the hourly Marginal IRU Cost (ρ_t) of each EDAM BAA > CAISO BAA ρ_t • IRU DCPA: Same uncompetitive paths as $RSI_{m,t}^{(u)}$<1 • Calculate Competitive $IRUMP_{i,t}$ Exclude uncompetitive MCC and the differential between EDAM BAA (ρ_t) and ISO (ρ_t) from locational price of IRU • Mitigate the resource IRU bid to the higher of the default IRU bid (DAB= $55) and its competitive $IRUMP_{i,t}$	Core	MPM
EDAM-BRQ-13061	**Include GHG constraint in LMPM** • Use the same GHG constraint in IFM and MPM, include resource GHG reference point (from GHG pass) in GHG constraint • GHG bids are not subject to mitigation	Core	MPM
EDAM-BRQ-13062	**Extend storage DEB to EDAM storage resource** • Non-CAISO EDAM resources can now use the Storage DEB option in DAM and RTM	Core	IFM/RTM

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted

EDAM-BRQ-13070	**Co-optimization for Energy supply/demand, CB, AS, IRU/IRD across EDAM footprint**
	
	The IFM will optimally procure Energy, IRU/IRD across the EDAM footprint; AS for ISO, CB for opt-in BAAs, and GHG allocation with resource bids and network constraints:
	
	• Set up PBC and IRU/IRD requirement constraints for each specific BAA, no EDAM footprint PBC constraint, use same requirements that include diversity benefit used in RSE 9 am run.
	
	• Enforce self-schedule energy, and self-provision of AS, do not enforce AS constraint for non-ISO EDAM BAAs
	
	• Co-Optimize :
	
	    • Energy supply bids and demand bids, include system resource bids
	
	    • IRU/IRD bids
	
	    • Convergence bids of supply and demand for ISO and EDAM BAAs that opt-in CB
	
	    • AS bids for ISO,
	
	    • GHG bids from resources
	
	    • Extend/enforce all IFM resource limits and network constraints to EDAM.
		Core	IFM

EDAM-BRQ-13080	**Model EDAM Transfer resource constraints:** • Enforce the transfer limit of all TSR limits to support energy, fixed AS, IRU/IRD in IFM, the downward capacity awards of IRD and RegD shall not provide counter flow. • All TSR capacities are available for market optimal transfer for any commodity. • The transfer awards to TSR for Energy, AS, IRU, IRD. One TSR can have multiple commodity awards. • Apply to the schedule priority for the resource and TSR with CRN, only balanced self-schedule have schedule priority, with order of TOR,ETC,OATT, by penalty cost • Released capacity of TSR with CRN (pathway 2) will not have schedule priority	Core	IFM

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-13090	**Apply demand price curve for IRU/IRD** • Consume and transform (flip) demand price curve to monotonically increasing price curve • Apply BAA demand price curve for IRU/IDR; relax on IRU/IRD surplus variables in optimization to procure IRU/IRD • In the IFM the IRU/IRD requirement will be relaxed economically before the PBC is relaxed.	Core DAME	IFM
EDAM-BRQ-13095	**Broadcast PBC relaxed value, deemed BAA that failed to be cured in IFM** If the EDAM BAA have non-zero relaxation (positive/negative) in Power Balance Constraint (PBC) in IFM • Broadcast the relax value of PBC by hour by BAA • Deem the BAA not cured by the market • Exclude the BAA from the EDAM upward pool if the PBC relaxed variable is positive in IFM or RUC. • Exclude the BAA from the EDAM downward pool if the PBC is relaxed variable is negative in IFM or RUC.	Core	IFM
EDAM-BRQ-13096	**The EDAM pool** EDAM BAAs with zero relaxation in PBC will form a pool in RTM RSE if the BAAs tag the schedules or resupply.	Process	IFM
EDAM-BRQ-13099	**Build activate/deactivate configurable parameter for net transfer out constraint** The activate/deactivate system parameter shall apply to DAM, IFM, and RUC	Core	DAM, IFM, RUC
EDAM-BRQ-13100	**Enforce Net EDAM Export Transfer Constraint** • Consume confidence factor (CF) • Consume hourly reliability margin (RM) from SIBR • Consume EDAM entity submitted BAA level hourly **activate flag** from SIBR • Market shall enforce **hourly net transfer out** limit for energy, IRU, and IRD	Core	IFM, RUC (from SIBR)

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	o (RSE Eligible Supply + Non RSE Eligible Supply x Confidence Factor) − − RSE Obligation − Additional Margin The constraint uses the RSE awards to calculate the available capacity • In RUC: Market shall enforce **hourly net transfer out limit** for (energy + IRU − IRD+ RCU) • Stressed hour shall only be reported for CAISO BAA		
EDAM-BRQ-13120	**Do not allow simultaneous relaxation (supply shortfall/surplus) of the power balance constraint and a net export transfer above RSE eligible energy exported transfers** • The IFM will not allow a net export energy transfer above a reference to cause power balance shortfall, or a net import energy transfer below a reference to cause power balance surplus. The net transfer reference is the RSE eligible net transfer. Note: Imbalance reserve balance relaxation constraints are not required in the IRU/IRD deployment scenarios because of the economic relaxation of the IRU/IRD requirements provided by the IRU/IRD surplus Note: Model as the slack variable of PBC balance (Positive as short of supply) cannot be the same direction as net transfer above **RSE eligible** energy transfer	Core	IFM
EDAM-BRQ-13140	**Do not allow simultaneous relaxation of the RCU/RCD procurement constraint and a net export transfer above RSE eligible RCU/RCD exported transfers** • The RUC will not allow the simultaneous relaxation of the reliability capacity procurement constraint and a net reliability capacity export transfer	Core	RUC
EDAM-BRQ-13150	**Model system resource (SR) with unknown location at super DGAP (SDGAP) as injection location** • Consume SR with unknown location association with scheduling point (SP) and super DGAP • The system resource that include the SP with association to non-EDAM super DGAP (SDGAP) will use DGAP as injection location in the DAM, LMP for the system resource will be formed according to the DGAP.	Core	DAM

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• Market shall renormalize GDF to account for outages		
EDAM-BRQ-13152	**Model ITC/ISL at Scheduling Point (SP) of system resource that inject at super DGAP** Include system resource with injection defined at DGAP in the ITC/ISL constraint that apply to corresponding intertie SP	Core	DAM
EDAM-BRQ-13160	**Extend to EDAM: hourly LMP for energy and IRU/IRD to EDAM location and resource** • Calculate hourly locational marginal price (LMP) for energy in DAM, include IRU/IRD deployment scenarios on congestion for nodal and resource ○ Include Gas nomogram shadow price for resource only • Calculate hourly SP-Tie LMP for energy in DAM include IRU/IRD deployment scenarios on congestion as normal nodal LPM plus shadow price of ITC/ISL for nodal and resource • Calculate hourly nodal IRU marginal price (IRUMP) in DAM for nodal and resource • Calculate hourly nodal IRD marginal price (IRDMP) in DAM for node and resource • Calculate hourly SP-tie IRU marginal price (IRUMP) in DAM for nodal and resource • Calculate hourly SP-tie IRD marginal price (IRDMP) in DAM for nodal and resource	DAME	DAM
EDAM-BRQ-13161	**Extend to EDAM: hourly IRU/IRD surplus value, LMP and components for EDAM BAA** • Access Associated Imbalance Demand Hub Apnode of each BAA from MF • Calculate BAA Imbalance Upward/Downward deployment Shift Factors Imbalance demand reference point (Anode) • Include IRU/IRD awards, demand and surplus contribution in transmission constraint • Calculate hourly IRU/IRD Surplus variable and IRU/IRD marginal price at location (Apnode) associated with the BAA Imbalance Demand Hub, including price breakdowns per BAA per PIME logic	DAME	DAM

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• Broadcast hourly IRU/IRD Surplus variable and IRU/IRD marginal price of Imbalance Demand Hub Apnode, including price breakdowns by BAA.		
EDAM-BRQ-13162	**Calculate the energy LMP and IRU/IRD MP for the transfer resource (TSR)** • Calculate energy LMP for TSRs to include all components (MEC, MCL, and MCC) similar to SP-Tie, but without MCG ○ For MCL, the marginal loss rate between the two TSRs for a given transfer will be averaged so that there is no marginal loss contribution to transfer revenue. • Calculate IRU/IRD LMP for TSRs. The TSR IR/RC MP is the same as energy, but without MCL for IR, thus only marginal price for IRU/IRD procurement for the BAA attached to, and marginal congestion contributions and SP-Tie, without MCG	Core	DAM, RTM
EDAM-BRQ-13210	**Calculate LMP energy components (MEC) for each BAA** • The LMP energy component (MEC) will be each BAA dependent • For the EDAM BAA nodal price LMP, use the BAA power balance constraint shadow price as MEC	Core	DAM, RTM
EDAM-BRQ-13220	**Extending DAM lock commitment cost function to EDAM:** • Binding DAM resource commitments should lock in the commitment cost bids (minimum load cost, startup cost, transition cost) in the RTM for the hours in which the resource was committed.	Existing	DAM, RTM

Copyright 2023 California ISO

5.8 Business Process: Manage RUC (RUC, DAM TD+X)

- Extend RUC for RCU/RCD to EDAM
- Calculate RCU/RCD transfers awards and prices
- Extended VER capacity to VER forecasts
- Do not allow the simultaneous relaxation of the reliability capacity procurement constraint and a net reliability capacity export transfer
- Enforce net transfer out limit in RUC
- Run TD+X DAM market with re-optimization for energy, AS for ISO, IRU, IRD

Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-14010	**Extend RUC for RCU to EDAM, model RCU/RCD transfers:** • Define notion REN=EN+RCU-RCD for each EDAM BAA resource • Include TSR for RCU capacity in the EDAM BAAs transfer limit constraints that include IFM awards, allow Energy counter flow. • Build RUC-MPM, apply LMPM for RCU, and broadcast mitigated RUC bids • Apply mitigated RUC bids for 24 hours • Procure RCU/RCD through optimization • Fixed AS and IRU/IRD IFM awards, no CB, no GHG model • Model MSG transition in RUC	Core DAME	RUC
EDAM-BRQ-14012	**VER capacity extended to VER forecast** • VER capacity shall be extended to the VER forecast in RUC for EDAM VER resources	Core	RUC
EDAM-BRQ-14014	**Apply MPM for RCU at the BAA level, similar as for Energy** • Trigger for RCU DCPA: After RUC MPM run, if the hourly Marginal RCU Cost (RUC MEC) of each EDAM BAA > CAISO BAA Marginal RUC Cost (RUC MEC) • Calculate RSI, if RSI<1, the BAA RUC PBC deemed uncompetitive for the hour • Calculate Competitive $RCUMP_{i,t}$ for uncompetitive RUC PBC	Core	RUC

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	Exclude uncompetitive MCC and the differential between EDAM BAA RCU MP and ISO RCU MP from locational price of IRU • Mitigate the resource IRU bid to the higher of the default RCU bid (DAB= $55) and its competitive $RCUMP_{i,t}$		
EDAM-BRQ-14020	**Do not allow the simultaneous relaxation of the power balance constraint and a net reliability capacity export/import transfer** • Do not allow a net export reliability capacity transfer above a reference to cause power balance shortfall, or a net import reliability capacity transfer below a reference to cause power balance surplus. The net transfer reference includes the energy and IRU/IRD net transfers from the IFM	Core	RUC
EDAM-BRQ-14030	**Enforce net transfer out limit in RUC** • Base on the EDAM BAA option flag • Market shall enforce **hourly** limit for (energy + IRU – IRD + RCU) as max of (difference between countable capacity and the RSE requirement for the EDAM BAA, RSE eligible transfer out)	Core	RUC
EDAM-BRQ-14042	**Calculate RCU LMP for RUC transfer TSR** • Calculate RUC LMP for TSRs to include all components (MEC, MCL, and MCC) similar to SP-Tie, but without MCG. ○ For MCL, the marginal loss rate between the two TSRs for a given transfer will be averaged so that there is no marginal contribution to transfer revenue	Core	RUC
EDAM-BRQ-14060	**Run D+X EDAM same as D+1 EDAM with corresponding bids and forecast** • Run D+X study case same as DAM for D+1, no change to market products co-optimization, network, and schedule constraints enforcements ○ Able to run all DAM passes • The D+X runs use everything as close as possible to D+1 today.	Process	DAM

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• Use D+X bids for energy, AS. IRU/IRD in IFM, RCU/RCD bids in RUC if MP submitted bids in advance, otherwise ○ Allow user to use copy of the D+1 bids or same-day bids • Use latest submitted outages • Use transfers submitted scheduling limits for D+X, use D+1 limits or same-day limits if not submitted • Support schedule priority for the resource with CRN with valid self-schedule		
EDAM-BRQ-14062	**Run D+X EDAM with the D+X demand forecast and D+X requirements for AS, IRU, IRD** • Consume the BAA load forecasts for D+X • Consume the BAA VER forecasts for D+X • Consume and use latest estimated parameters of the same day type of D+X for IRU/IRD • Calculate the requirement for BAA IRU/IRD for D+X • Calculate D+X AS requirements for ISO • Consume EDAM BAA submitted D+X, AS requirement, if not submitted, use the latest day AS requirement and self-provision or same day AS requirement self-provision of the BAA	Core	DAM

EDAM-BRQ-14074	**Extend to EDAM: Model GAS Nomogram and broadcast report of Gas Burn for D+X**
	• Allow EDAM entity model multiple GAS nomograms in IFM, RUC, RTPD in same manner as for ISO
	    ○ Define Gas company, transmission zone and corresponding resources association
	    ○ Define the coefficients for each resource in the Gas nomogram
	    ○ Define the nomogram curve
	• Allow EDAM entity to activate the Gas nomogram through WebOMS
	• Calculate/Broadcast the Gas burn report
	    ○ Gas burn summary report by Gas company, by transmission zone
		Existing	SMDM,
			
			IFM, RUC, RTPD

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	○ Gas burn detail report by resource **Notes** • The Gas report for each EDAM entity will broadcast to CMRI. • This requirement is referring only to the technical software capabilities to establish a gas nomogram. The CAISO would like to clarify that that gas nomograms require FERC approval and several business processes to be completed. Should an EDAM/WEIM entity wish to register a gas nomogram, this would require FERC approval. • This requirement will **not** add any new functionality to enable gas nomograms for EDAM/WEIM entities, either in Market or in WebOMS.		

5.9 Business Process: Manage Tagging DAM Schedules and resupply (RTSI, ITS, SIBR)

- Facilitate SC submission of tags at 3 hours post-DAM and TH-5h in RTM for DAM import/export and transfer TSR awards/schedules

- Calculate import/export tag shortfalls for EDAM BAAs in the EDAM pool 3 hours after DAM

- Calculate trading hour (TH) import/export tag shortfalls and resupply for EDAM BAAs in the EDAM pool by TH-5hr

- Verify EDAM BAA resupply to cover the import tag shortfall at TH-5 hour for the TH

- The EDAM downward pool includes all EDAM BAAs. No tag validation on export direction

- For the TSR with CRNs, allow EDAM entities and ISO to submit self-scheduled TSR

5.9.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted

EDAM-BRQ-15010	**Timing for SC to submit tags for DAM awards/schedules:**
	- 3 hours after DAM: System shall consume EDAM entity SC or resource SC submitted schedule and/or transmission profile tag for DAM award/schedule by either 4 pm or within 3 hours of DAM posted results.
	    Note: The ISO market operator will broadcast the report for DAM tag after consumed tags.
	- By TH-5 hour:
	    o System shall continue to accept DAM schedule and/or transmission profile tag until (T-5 hour) for counting in EDAM pool eligibility assessment for the trading hour
	
	Note: The market system will evaluate BAA eligibility for EDAM pools based on the tags submitted for DAM schedules.
		Process	RTSI for EDAM
			ITS for ISO

EDAM-BRQ-15020	**EDAM entity shall Tag hourly Intertie schedule between EDAM and non-EDAM BAAs** EDAM entity SC shall submit: - The hourly energy schedule and transmission profile tag for DAM self-scheduled import/export energy schedules between EDAM and non-EDAM BAAs - The hourly transmission profile tag for DAM self-provision ancillary service (AS) capacity between EDAM and non-EDAM BAAs	Process	RTSI

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• The hourly energy schedule or transmission profile tag for DAM self-schedule or awards of energy dynamic schedules and OATT network resources (TG)		
EDAM-BRQ-15030	**ISO resource SC shall tag hourly intertie energy between CAISO and non-EDAM BAAs in e-tagging system** Import/Export Resource SC of CAISO shall submit: • The tag for DAM self-scheduled import/export energy schedules between EDAM and non-EDAM BAAs • The tag for DAM self-schedule or awards of energy dynamic schedules and OATT network resources (TG)	Existing DAME	ITS
EDAM-BRQ-15040	**EDAM entity SC or resource SC shall submit approved tags for DAM hourly TSR awards for energy** All TSR DAM energy awards shall be tagged for energy profile between EDAM BAAs • The tag shall be sum of all import, excluding wheels and pseudo tie tag, associated with the from BAA and to BAA IDs that are defined the Master File or SIBR • Tagged energy profile	Process	EDAM scheduling system
EDAM-BRQ-15050	**ISO shall Tag hourly TSR awards for energy for ISO in e-tagging system** Between the ISO BAA and EDAM BAA in the EDAM footprint • Tag energy profile for DAM TSR energy awards	Process	ITS
EDAM-BRQ-15060	**Calculate the gross tagged energy import for CISO twice, at 3 hour after DAM awards are consumed and at T-5HR of real time** • Calculate the hourly gross energy import tagged include import and TSR import for the ISO o Exclude wheeling tags and pseudo tie tags • Each time the value is calculated the most recent submitted tags, in approved and pending approval state, will be considered	Existing	ITS
EDAM-BRQ-15062	**Calculate the gross tagged energy import for the EDAM BAA** • Calculate the hourly gross energy import tagged-include import and TSR import for the EDAM BAA	Process	EDAM scheduling system

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	o Exclude wheeling tags and pseudo tie tags • Each time the value is calculated the most recent submitted tags, in approved and pending approval state, will be considered		
EDAM-BRQ-15063	**System shall provide a new submit service to allow the external entity to submit the gross tagged energy import for EDAM BAA after the value is calculated** • The submitted value is the gross energy import tagged for the EDAM BA by hour • The gross import data should be submitted at least twice: at 3 hours after DAM award publication for all trading hours and at TH-5 hour for the trading hour.	Core	SIBR
EDAM-BRQ-15069	**Consume Gross Energy Import by BAA** • Data from EDAM entity will be submitted directly to RTSI then broadcasted to the system • Data from CISO BA will be broadcasted by ITS and consumed by the system	Core	SIBR

EDAM-BRQ-15070	**Calculate gross hourly energy import schedule upon receiving DAM awards**
	
	• The system shall calculate the DAM gross hourly energy import schedule for each EDAM BAA and ISO
	
	    o Import between EDAM BAA (include ISO) and non-EDAM BAA, and
	
	    o Transfers in TSR between EDAM BAAs (include ISO)
	
	    o Exclude wheel and pseudo-tie type award
		Core	SIBR

EDAM-BRQ-15071	**Calculate the tag shortfalls for each CISO and EDAM BAA twice, at 3 hour after DAM awards are broadcasted and at T-5HR of real time** • System shall calculated the shortfall as the difference between aggregate energy import awards and aggregate import based on tags Note: max(0, schedule-import tag) is considered shortfall	Core	SIBR
EDAM-BRQ-15110	**System shall calculate supply bid coverage by EDAM Entity BA and ISO market, at T-5HR of real time** • For entities that passed shortfall test (shortfall=0), the resupply test should be auto passed	Core	SIBR

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted

	• For entities that failed shortfall test (shortfall>0):
	  o Calculate the sum of the supply energy bid range above the day-ahead schedule
	    ▪ Not encumbered by UPWARD capacity awards
	  o Resupply passed if the resupply≥ shortfall
	  o Resupply failed if the resupply< shortfall		

EDAM-BRQ-15130	**Broadcast import tag shortfalls by hour by BAAs to OASIS at 3 hour after DAM awards are consumed**
	  • Gross import tagged
	  • Tag shortfall test amount (0 if the tagged import covers schedules)
	  • Tag shortfall test results (PASS/FAIL)
		Core	SIBR

EDAM-BRQ-15132	**Broadcast import tag shortfalls and resupply results by BAAs to OASIS at TH-5HR of TH**
	  • Gross import schedule
	  • Gross import tagged
	  • Tag shortfall test amount (0 if the tagged import covers schedules)
	  • Tag shortfall test results (PASS/FAIL)
	  • Bid coverage supply
	  • Bid coverage resupply coverage shortfall amount (0, if the resupply covers shortfall)
	  • Bid coverage resupply coverage test results (PASS/FAIL)
		Core	SIBR

EDAM-BRQ-15134	**Exclude the EDAM pool tagging and resupply test for the BAAs which have already been dropped out of the EDAM pool due to PBC infeasibilities in IFM or RUC**	Core	SIBR
EDAM-BRQ-15140	**For the TSR with CRN, EDAM entity will submit late schedule changes as an update to RTSI of the TSR in RTM** For the TSR associated with CRN: • The OATT transmission owner can do this through an eTag associated with the CRN up to their rights	Business Process	RTSI

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted

	• The EDAM entity should verify that the late schedule change does not exceed the CRN entitlement
	
	• The EDAM entity shall submit the self-schedule for the TSR on behalf of transmission right owner
	   o RTSI shall consume and broadcast submitted self-scheduled TSR
	   o SIBR shall consume self-scheduled TSR		

EDAM-BRQ-15200	**EDAM/WEIM Entity needs to include the CRN when submitting the final tag information as part of the After The Fact tag through RTSI** • External Entity (EDAM and WEIM) to submit a schedule breakdown by CRN when submitting after the fact tag through RTSI – specifically to identify how the TSR schedules are divided Note: The EDAM entity can submit the AFT tag for transmission right owner resource DA RSE with CRN	Business Process	RTSI

5.10 Business Process: Manage RTM (RT-RSE, RTM)

- Calculate FRU/FRD requirements for the EDAM pool
- Run the WEIM RSE for EDAM up/down pools with the pool FRU/FRD requirements
- EDAM BAAs in the RSE passed pool shall be included in the WEIM RSE passed group
- EDAM pool in WEIM RSE shall fail as a pool
- AET optionality for failed EDAM up pool: form sub-pools of AET and of non-AET for the relevant intervals
- Do not allow the simultaneous relaxation of the PBC constraint and a net export transfer
- Equal priority for load and EDAM energy TSR
- Post-HASP curtailment rule to incorporate DA-TSR as same priority as load
- LMP Marginal energy cost component for each BAA

5.10.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-16015	**Perform only WEIM base schedule Flex test for EDAM BAAs:** • No Balance test in WEIM for EDAM BAA • No feasibility test • No capacity test • Only Flex test applies to EDAM BAA	Core	RTBS
EDAM-BRQ-16016	**Auto-mirror DA schedule between EIM BAA and EDAM BAA** System shall auto mirror the total IFM energy schedule of the MF defined SR and SIBR defined transaction between EDAM BAA and WEIM BAA with same DGAP and Tie.	Core	RTBS
EDAM-BRQ-16020	**Consume the EDAM up/down pool composition and forecast parameters for the FRUR/FRDR** • RTBS consumes from RTSI/SIBR EDAM pool composition to indicate EDAM BAAs that in EDAM upward/downward pools • RTBS consumes the polynomial forecast parameters for calculation of FRUR/FRDR for the EDAM upward /downward pools	Core	RTBS
EDAM-BRQ-16022	**Calculate the interval FRUR/FRDR for the EDAM up/down pools at T-75, 55 and 40**. • Merge the EDAM upward pool corresponding BAAs' forecast for demand, solar, and wind	Core	RTBS

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• Merge the EDAM downward pool corresponding BAAs' forecast for demand, solar, and wind • Consume the estimated parameters for EDAM upward pool and EDAM downward pool • Calculate the requirements FRUR /FRDR for the interval of the trading hours for EDAM upward/downward pools using merged forecasts of corresponding BAAs and the estimated parameters from the mosaic uncertainty polynomial • Applies same threshold in the same manner as for WEIM RSE passing group		

EDAM-BRQ-16030	**WEIM RSE Flex test for EDAM up/down pool with the pool FRU/FRD requirements**
	
	• For EDAM pool, run Flex test only, no Balance, feasibility, capacity test*
	
	• The WEIM-RSE shall run flex test, test the EDAM upward pool for FRU sufficiency, and EDAM downward pool for FRD sufficiency
	
	   ○ WEIM RSE will use the latest available tag for imports, exports, and transfers
	
	     ○ If no tag is submitted by T-40, schedules shall be set to 0 for the relevant (i.e. not tagged) testing hour(s) in the WEIM RSE Test
	
	   ○ The EDAM TSR energy schedules are treated as base ETSR in WEIM RSE
	
	*Note: Passing the Flex test implies the ability to pass the capacity test
		Core	RTBS

EDAM-BRQ-16032	**WEIM RSE flex test for EDAM BAA that drop-out of EDAM pool** • For EDAM BAA that are not in the EDAM up pool, run flex up test for FRU sufficiency test • For import/export with non-EDAM and energy transfer with other EDAM BAAs based on the tag/transmission profile Note: EDAM downward pool includes all the EDAM BAAs, since there is no checking the export tag status for EDAM BAA.	Core	RTBS

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-16050	**If the EDAM pool passes the WEIM RSE, the EDAM pool will be added to WEIM RSE BAA pass group** • If EDAM up/down pool passes the +WEIM-RSE, report pass outcome for the EDAM pool in the same manner as for a WEIM BAA passing • For the BAA in pass group, calculate the FRUR/FRDR and procure the FRU/FRP in RTM	Core	RTBS
EDAM-BRQ-16055	**The system shall calculate the FRU/FRP demand curve for each WEIM BAA** • The demand price curve for FRU/FRD is for individual BAA • The FRU/FRD surplus in each FRP Surplus Zone in each BAA in the WEIM Area is distributed in the ACPF solution with the same distribution factors that are used to distribute the FRU/FRD requirement, but renormalized for that FRP Surplus Zone that apply to EDAM pool	Existing	Internal ISO System
EDAM-BRQ-16058	**EDAM BAA shall not submit Base Schedules** • System shall not allow EDAM BAA to submit base schedules Note: EDAM BAAs have DA schedule that will be used as reference for RT deviation settlement	Core	BSAP
EDAM-BRQ-16060	**For EDAM up pool that failed WEIM RSE as a pool, divide it into AET sub-pool and non-AET sub-pool for each 15 minute interval** • If EDAM up/down pool fails the WEIM-RSE, report the failure for the entire EDAM up/down pool • Depending on the election of each BAA in the EDAM up pool to receive Assistance Energy Transfer (AET) or not (registered in MF), the EDAM up pool that failed RSE shall be divided into two sub-pools: the sub pool that will receive AET (the AET sub-pool) and the sub pool that will not receive AET (the non-AET sub-pool) o The system shall broadcast the BAA composition of the AET sub-pool upward, and the non-AET sub-pool upward for each 15-minute interval	Core	RTBS, RTM

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-16062	**Allow assistant energy transfer for AET Sub-pool in RTM** • The system shall procure FRU in the RTM for each sub-pool up similar to a BAA that has failed the RSE upward test • The AET sub-pool will be treated in RTPD, RTD, and STUC similar to a BAA that has elected to receive AET, i.e. without net transfer constraint at the sub-pool level and ex-post surcharge for those receiving AET (refer to RSEE Phase 2 BRS for details) • The non-AET sub-pool will be treated in RTPD, RTD, and STUC similar to a BAA that has elected not to receive AET, i.e. with a net transfer constraint at the sub-pool level and (refer to RSEE Phase 2 BRS for details)	Core	RTM

EDAM-BRQ-16065	**WEIM RSE for AET sub-pool after T-40**
	
	• The system shall perform additional flex ramp up sufficiency test for the EDAM up AET sub-pool right after T-40 RSE test
	
	  ○ Use existing flex test for AET sub-pool
	
	• System shall broadcast the insufficiency amount for AET sub-pool in 15-minute intervals
	
	  • If AET sub-pool fail the RT RSE, report the deficiency amount
	
	  • If AET sub-pool pass the RT RSE, report the surplus amount
	
	Note: see Appendix A8 Business Flow Diagrams (a)
	
	The insufficiency amount will be used in Settlements for the AET surcharge. The AET sub-pool with surplus RSE will not be subject to AET surcharge.
		Core	RTBS

EDAM-BRQ-16088	**Include Mirror resource for the EDAM DA schedule for energy in the WEIM BAA's PBC**	Existing	RTPD, RTD
EDAM-BRQ-16090	**Do not allow the simultaneous relaxation of the PBC constraint and a net export transfer**	Existing	RTPD, RTD

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	Model as the slack variable of PBC balance (positive as short of supply) cannot be the same direction as net transfer above IFM energy transfer (Appendix A3) For a given time interval, the BAA power balance constraint with penalized supply shortfall and surplus is as follows: $$\sum_{i \epsilon BAA_j} G_{i,t} - D_{j,t} - T_{j,t} + s_{j,t}^{(+)} - s_{j,t}^{(-)} = 0$$ The power balance constraint relaxation when either the shortfall or the surplus take value is constrained as follows: $$\left(s_{j,t}^{(+)} + \sum_{i \epsilon BAA_j} ABC_{i,t}^{(+)} \right) \left(T_{j,t} - \bar{T}_{j,t}^{(+)} \right) \leq 0$$ $$\left(s_{j,t}^{(-)} + \sum_{i \epsilon BAA_j} ABC_{i,t}^{(-)} \right) \left(T_{j,t} - \bar{T}_{j,t}^{(-)} \right) \geq 0$$		

EDAM-BRQ-16100	**Equal priority for demand and DAM TSR**
	
	- In RTM penalty setting, equal priority for load and DAM energy TSR (same as base TSR) for BAA
	
	    o In stressed system conditions, infeasibility by relaxing the power balance constraint in the BAA with insufficient supply. Same penalty cost for DAM energy transfer and base transfer and load for the BAA
	
	    o The TSR with CRN Self-Schedule (SS) late self-schedule have equal priority to the cleared DAM TSR with CRN self-schedule.
	
	    o If OATT priority higher than RT SS is communicated (i.e. OATT 1), it shall be given ELC equivalent priority (no hedging)
		Core	RTPD, RTD

EDAM-BRQ-16102	**Post-HASP curtailment rule to incorporate DA-TSR to have same priority as DAM schedule for ISO**	Core	RTPD
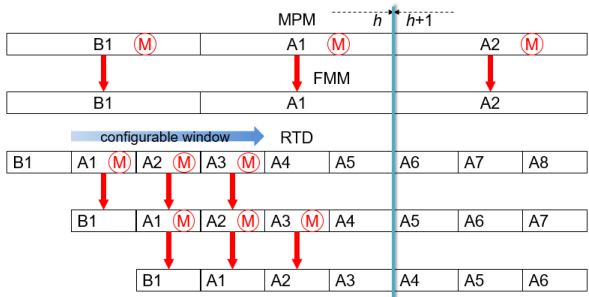
ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• Update post HASP curtailment rule. Include DA-TSR schedule, in addition to RA import, DAM import, PT wheel (PT export leg/Import leg), and PT export for ISO. DA-TSR schedule will have equal priority as DAM cleared schedule in post-HASP curtailment.		
EDAM-BRQ-16104	**HASP Hourly block schedule revert to RUC schedule under HASP failure** In case of HASP failure, or operator manually blocking of HASP results, will revert to RUC schedule (IFM EN+RCU-RCD) for hourly import, IFM_EN-RCU+RCD for hourly export	Core	RTPD
EDAM-BRQ-16110	**LMP Marginal energy cost component for each BAA** • The LMP energy component (MEC) shall be the shadow price of each BAA PBC (a change from today WEIM), apply to DAM and RTM	Core	RTPD,RTD
EDAM-BRQ-16112a	**MPM for Energy at the WEIM BAA level–Trigger DCPA for PBC in RTPD** Trigger for RTPD binding interval DCPA After RTPD MPM run for the RTPD all intervals compare the 15 minute interval t Marginal Energy Cost (MEC) of each WEIM BAA and CAISO BAA MEC • If (WEIM BAA MEC > CAISO BAA MEC), the WEIM BAA is subject to PBC DCPA test for the interval t. otherwise, no DCPA test for the interval.	Core	RTPD
EDAM-BRQ-16112b	**MPM for Energy at the BAA level– DCPA for WEIM BAA PBC** • For each interval, for the WEIM BAAs triggered for DCPA, evaluate if BAA PBC is an uncompetitive constraint, treat PBC as a binding constraint, use same DCPA calculation as for other binding constraints Calculate RSI of PBC • If RSI <1, the WEIM BAA PBC deemed as uncompetitive constraint on hourly basis. Otherwise, the BAA PBC deemed competitive	Core	RTPD
EDAM-BRQ-16112c	**Apply MPM for Energy at the BAA level-LMPM for WEIM resources; Calculate competitive LMP that excludes differential of MECs**	Core	RTPD

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	Calculate competitive LMP: - For the WEIM BAAs have interval uncompetitive PBC, exclude uncompetitive MCC, exclude the differential between WEIM BAA MEC and CAISO MEC from nodal LMP for competitive LMP calculation for all price nodes in the BAA that apply LMPM in 15 minute interval. - For the WEIM BAAs with competitive PBC, exclude uncompetitive MCC from nodal LMP for competitive LMP as currently for all price nodes in the EDAM BAA. - Bid mitigation: If uncompetitive portion $LMP_i^{NC} >$ *Mitigation Threshold Price,* the resource bid would be mitigated to the higher of the default energy bid (DEB) and its competitive LMP. The bid mitigation apply to all the resources that subject to LMPM. Only mitigate resources that have net positive contribution to the LMP - Apply exiting RTPD MPM rule, mitigated bid curve on RTPD intervals		
EDAM-BRQ-16112d	**MPM for Energy at the WEIM BAA level–for PBC in RTD** - Trigger for RTD DCPA: After each RTD run, if the first three advisory intervals Marginal Energy Cost (MEC) of each WEIM BAA > CAISO BAA MEC - RTD DCPA the three advisory interval: use Ramp capacity for 5 minute, - DCF for energy and FRU/FRD deployment scenario. Same calculation for uncompetitive paths as $\mathrm{RSI_{m,t}}<1$ Note: in SCF we include all AS awards from FMM, and use 5 min ramp capability - Calculate Competitive $\mathrm{LMP_{i,t}}$ that exclude uncompetitive MCC and exclude differential between of WEIM BAA MEC and ISO MEC from LMP for uncompetitive PBC	Core	RTD

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• Mitigate the resource energy bid to the higher of the DEB and its competitive $\text{LMP}_{i,t}$ o Apply existing RTD MPM rule, first three advisory intervals inherent from previous RTD on rolling forward basis, the other RTD intervals use unmitigated bids. MPM Timing and intervals for FMM and RTD: 		
EDAM-BRQ-16130	**Extend BAA FRP Procurement to the sub-pool for the 15-minute interval that is binding for energy scheduling in FMM** • FRU procurement constraint formed for AET sub-pool without restraining the transfer • FRU procurement constraint formed for non-AET sub-pool with restraining the transfer	Core RSEE2	RTPD STUC
EDAM-BRQ-16140	**The WEIM ABC functionality shall apply to EDAM BAA (non-ISO) self-provision regulation in DA and RTM** • For the EDAM BAA, all the regulation self-provision, in DAM and RTM shall be eligible for ABC in RTM. Note: WEIM ABC function does not apply to the ISO BAA, no change to current rule	Core	RTPD, RTD

	Template Version:	6.8
Technology	**Document Version:**	**1.2**
Extended Day Ahead Market **Business Requirements Specification - Planning**	**Date Created:**	**8/1/2023**

![California ISO]

5.11 Business Process: Manage GHG in DAM and RTM (GHG pass, GHG model in DAM and RTM)

- Build GHG reference pass in DAM

- Use full optimization without net imports to GHG area for GHG reference pass

- In GHG reference pass: no reference for GHG contractual resource capacity registered in MF as committed to serve demand in a GHG regulation area outside the GHG regulation areas

- Store resource energy schedules as GHG reference point

- In the DAM: model resource specific GHG model for multiple GHG regulation areas using resource reference point from GHG pass

- Include GHG transfer attribution constraint in MPM and IFM for each GHG regulation area and outside resource above GHG reference point

- Calculate/broadcast GHG constraint shadow price

- The aggregate GHG attribution to resources in a BAA in a non-GHG area is limited by the hourly/interval net export constraint in DAM and RTM

- WEIM RTM GHG model changes

5.11.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-17020	**Build GHG reference pass in DAM** • Build a different pass that can run with same market inputs • GHG reference pass can be run by user manually, or: • Timed automatic run after DAM close at 10 am, before MPM	Core	DAM GHG Pass
EDAM-BRQ-17030	**Use full optimization without net import to GHG regulation area(s) for GHG reference Pass** Run GHG reference pass with full optimization **identical to IFM, except**: • Ignore GHG bids, i.e. do not consider GHG bids when determining optimal energy schedules, and with no impact of the GHG net export constraint • The GHG transfer of each GHG regulation area [supply (include Gen bid, GHG pseudo-tie) Import from non-EDAM minus export, minus load] is constrained above or equal zero, i.e., no net import into a GHG regulation area is allowed, but allow net export from GHG regulation area	Core	DAM GHG Pass

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-17040	**In the GHG reference pass, no GHG reference for contractual resource capacity** registered in MF as committed to serve demand in a GHG regulation area o Access MF defined contractual resources located outside of a GHG regulation area o The energy bids of contractual capacity resources are ignored for reference calculation purposes. Resource capacity with contractual obligation to serve the demand in a GHG regulation area shall not receive a GHG reference schedule o The resource capacity that exceeds the contractual obligation shall be in the GHG pass: Ex: Resource Pmax= 200 MW, GHG contract for 120 MW (defined in MF), so 80 MW need to be in GHG pass Note: This BRQ applies only to resources that are not GHG pseudo–tied.	Core	DAM GHG Pass
EDAM-BRQ-17050	**The GHG reference pass will ensure there are valid reference schedules** o Ensure the GHG reference point is the max of: 0, positive dispatch	Core	DAM GHG Pass
EDAM-BRQ-17060	**Store resource energy schedule from GHG reference pass as the GHG reference point for MPM and IFM** • Store the GHG pass resource scheduled MW to support GHG reference point in MPM, IFM Note: Report SC/entity on CMRI	Core	DAM GHG Pass (CMRI)
EDAM-BRQ-17070	**The DAM will use the resource-specific GHG model for multiple GHG regulation areas using the resource's GHG reference point from the GHG reference pass: Access data** • In MPM and IFM, use the resource specific attribution GHG model, similar to the model used in the WEIM • Access the MF-defined GHG regulation areas and associated resources • Consume the SIBR-submitted GHG bids and the association of a resource's GHG bid to a specific GHG regulation area Note: Allow resource in one GHG area to submit bids for other GHG regulation areas	Core	DAM

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-17070a	**GHG Model: The DAM will use the resource-specific GHG model for multiple GHG regulation areas using the resource's GHG reference point from GHG pass** • Optimal allocation GHG transfer to non-GHG regulation area resource for each GHG area ○ Include the GHG bids for the portion of the GHG MW allocated to the resource in the objective function • The GHG transfer for each GHG regulation area is defined as (supply (include PDR and Gen bid, GHG pseudo-tie) minus load schedule and export in IFM) for the GHG area • The GHG import allocation constraint is modeled as import GHG transfer less than sum of GHG attributions for each GHG area	Core	DAM
EDAM-BRQ-17080	**Include GHG transfer attribution constraint in MPM and IFM for each GHG regulation area and outside resource above GHG reference point** • For each resource with GHG bids, the attribution amount is limited by the min of the GHG bid, optimal energy, and the value of the positive difference between the available capacity UEL and GHG reference point that is calculated through the GHG reference pass. Ensure the GHG reference point is the max of (0, (NGR) positive dispatch), applicable for resource with negative Pmin • GHG attribution constraint allocates GHG transfer into a specific GHG regulation area to EDAM resources outside of this GHG regulation area with GHG bid adders ○ Allow resources in GHG regulation area with GHG bid adders to serve other GHG regulation areas ○ For resources located outside of a GHG regulation area that do not have a GHG bid adder, or have a bid adder of 0 MW to serve Demand within a specific GHG Regulation Area, do not attribute the resource as supporting a GHG Transfer into that specific GHG Regulation Area	Core	MPM, IFM
EDAM-BRQ-17090	**Calculate DA GHG marginal price** • Calculate shadow price of GHG import allocation constraint for each GHG regulation area as GHG marginal price to serve this GHG regulation area from outside resources. This will be used for GHG Settlements	Core	DAM

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-17100	**Calculate GHG MGC component in LMP for EDAM footprint** • With GHG transfer attribution constraint modeled as import, calculate through supply minus demand for GHG regulation area. The MGC will be a positive value at the node of GHG regulation area. The MGC will be zero for the node outside of the GHG regulation area. • Calculate EDAM LMP GHG MGC components in DAM and RTM. o Competitive LMP calculation should include MGC as well	Core	DAM

EDAM-BRQ-17110	**Deactivate Gross GHG net export constraint if BAA failed RSE**
	
	• Hourly activate flag for Gross GHG attribution constraints (GHG net export constraint) –system wide - one flag for DAM and one flag for RTM
	
	    o If any BAA that overlaps with GHG regulation area failed EDAM RSE upward, the constraint will be automatically turned off for the failed hour for the system
	
	    o In RTM, for the intervals failed RT RSE upward, the constraint is turned off
		Core	DAM, RTM

EDAM-BRQ-17120	**Gross GHG attribution Constraints:** **The aggregate GHG attribution to resources in a BAA in the non-GHG regulation area is limited by the hourly GHG net export constraint** For each BAA outside of a GHG regulation area: • Access MF flag for the BAA that overlap with a GHG regulation area. The market will enforce the GHG net export constraint only for the BAAs that do not overlap with a GHG regulation area. • Add hourly constraints to limit aggregated GHG attribution to the resources in a BAA: • The aggregate GHG attribution to resources in a BAA is limited to the max () of following: o The total resource capacity in the EDAM BAA that is contractually obligated to serve demand in GHG regulation areas,	Core	MPM, IFM

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	○ The gross RSE-eligible export transfers from the EDAM BAA to other EDAM BAAs that overlap with GHG regulation areas, or ○ The net transfer (positive for export and negative for import) of the BAA at the optimal solution of the previous iteration.		
EDAM-BRQ-17122	**GHG net export constraint for one GHG area resources that serve other GHG areas** • Add hourly constraints to limit aggregated GHG attribution to the resources in a GHG area that attribute to other GHG areas • Where limit is max() function is the total resource capacity that is contractually obligated to serve demand in other GHG regulation areas and the GHG transfer of the GHG regulation area at the optimal solution of the previous iteration.	Core	IFM
EDAM-BRQ-17130	**In RUC, No GHG is modeled** • No GHG bids in RUC • No GHG transfer constraint • No resource GHG capacity constraint	Core	RUC

EDAM-BRQ-17200	**WEIM RTM GHG model changes:**
	• Same as for EDAM, change WEIM GHG implementation to use GHG transfer (supply, include GHG pseudo-tie minus demand in GHG regulation area) instead of BAA-BAA transfer to avoid defining the intra-BAA transfer between CLAPs that is separated by the GHG state boundary in the net export to a GHG regulation area
	  ○ The GHG transfer of each GHG regulation area for the GHG area less than sum of GHG attribution.
	    ○ RTM will have different number of WEIMs vs number of EDAM entities, consequently different number of resources with GHG contract, bid, etc., consequently different reference and attribution for each resource.
	• Distribute the load forecast BAA by LDF to the nodes that correspond to each GHG regulation area (state: WA, CA) boundary
	• For each resource with GHG bids, the deemed allocation amount is limited by min of the GHG bid, optimal energy, and
		Core	RTM

Copyright 2023 California ISO

Template Version:	6.8

California ISO **Technology**

Document Version:	1.2

Extended Day Ahead Market **Business Requirements Specification - Planning**	Date Created:	8/1/2023

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	the value of the positive difference between the available capacity UEL and the GHG reference point ○ Calculated through the IFM pass for EDAM BAA resource (max(0,IFM schedule-GHG attribution)) or ○ Base schedule for the resource in WEIM BAA only. Ensure the GHG reference point is the max of (0, NGR positive dispatch)		
EDAM-BRQ-17210	**Gross GHG attribution constraints in WEIM:** • Add activation/deactivation flag for Gross GHG Attribution constraint for RTM ○ If any BAA that overlaps with a GHG regulation area has failed the WEIM RSE (capacity or flex test) in a fifteen minute interval, the constraint will be deactivated for the RTPD and RTD for that interval For each BAA that does not overlap with any GHG regulation area: • The sum of all GHG attributions from the resources for each 5 min/15 min interval in the BAA shall be limited to the higher of: ○ Total capacity that is contractually obligated to serve demand in GHG regulation areas, as specified in the resource registry in the MF ○ The net BAA transfer at the optimal solution of the previous iteration (the constraint will not be enforced in the first RTPD SCUC without network; in RTD, the previous iteration is the first advisory of the previous RTD run) •	Core	RTM
EDAM-BRQ-17230	**Calculate/broadcast RT GHG marginal price** 1. Calculate shadow price of GHG import allocation constraint for each GHG regulation area as GHG marginal price to serve this GHG regulation area from outside resources. This will be used for GHG Settlements 2. Broadcast the GHG marginal price for each GHG regulation area	Core Tariff: §33.32.3 §27.1.1.3.1	RTM

5.12 Business Process: Manage Market Quality, Validation and Price Correction

- Extend to EDAM the DA schedule forecasted movement calculation
- Extend to EDAM: resources FMM ex-post capacity calculation
- Extend to EDAM: resources IRU/IRD, RCU/RCD FMM ex-post capacity allocation
- Extend to EDAM: resource Expected Energy calculations and allocation
- Exclude DAM TSR from expected energy calculations and allocations
- Extend to EDAM: resource Ex-Post Capacity calculations and allocation
- Extend to EDAM: resource Auxiliary Capacity calculations
- Extend to EDAM: RTM Resource Commitment Cost determination
- Extend to EDAM: resource IRU/IRD award 5-minute ramp capable portion calculation

5.12.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-18140	**Extend Calculation of DA schedule Forecasted movement to EDAM** - Calculate resource-specific hourly DA Forecasted Movement as: For CAISO and EDAM BAA resources: 　○ DA Schedule Forecasted Movement (h) = $\text{DAES}_{\text{DAM,h}} - \text{DAES}_{\text{DAM,h}-1}$	Existing DAME	Internal ISO System
EDAM-BRQ-18505	**Extend to EDAM resources the Resource Expected Energy Calculations, Allocations** System shall extend to EDAM resources the Resource Expected Energy Calculations and Allocations	Existing DAME	Internal ISO System
EDAM-BRQ-18510	**Exclude DAM TSR, from expected energy calculations and allocations** System shall exclude DAM TSR, from expected energy calculations and allocations, similar to existing WEIM ETSRs.	Core	Internal ISO System
EDAM-BRQ-18515	**Extend to EDAM resources the Resource Ex-Post Capacity Calculation and Allocations** System shall extend to EDAM resources the Resource Ex-Post Capacity Calculations and Allocations	Existing DAME	Internal ISO System

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-18520	**Extend to EDAM resources the resource FMM ex-post capacity calculation** System shall extend to EDAM resources the resource FMM ex-post capacity calculation	Core DAME	Internal ISO System
EDAM-BRQ-18525	**Extend to EDAM resources the resource IRU/IRD, RCU/RCD FMM ex-post capacity allocation** System shall extend to EDAM resources the resource IRU/IRD, RCU/RCD FMM ex-post capacity allocation	Existing DAME	Internal ISO System
EDAM-BRQ-18530	**Extend to EDAM resources the Resource Auxiliary Capacity Calculations** System shall extend to EDAM resources the Resource Auxiliary Capacity Calculation	Core DAME	Internal ISO System
EDAM-BRQ-18535	**Extend to EDAM resources the Resource RT Commitment Cost Determination** System shall extend to EDAM resources the Resource RT Commitment Cost Determination	Existing DAME	Internal ISO System
EDAM-BRQ-18540	**Extend to EDAM resources the Resource IRU/IRD award 5-minute ramp capable portion calculation** System shall extend to EDAM resources the Resource IRU/IRD award 5-minute ramp capable portion calculation	Existing DAME	Internal ISO System
EDAM-BRQ-18545	**Extend Calculations of 5-min Ramp-Capable Portion Data to EDAM resources** System shall extend calculation of 5-min Ramp-Capable Portion Data to EDAM resources	Existing DAME	Internal ISO System
EDAM-BRQ-18547	**Extend Use of IFM MSG Configuration as Reference for RT MLC Calculations to EDAM** System shall extend use of IFM MSG configuration as reference for RT MLC calculations to EDAM.	Existing DAME	Internal ISO System
EDAM-BRQ-18550	**Extend Consuming market result and corrected market result for EDAM resource** • System shall extend consumption of IFM produced resource awards and Ramp Rate Curve to EDAM BAAs • System shall extend consumption of corrected resource awards and ramp rate curve to EDAM BAAs	Existing DAME	Internal ISO System

Copyright 2023 California ISO

5.13 Business Process: Manage Billing and Settlements (MRI-S, Settlements)

- Settle DA TSR for energy, IRU/IRD, RCU/RCD

- EDAM RSE failure surcharge and allocation

- DAM Settlements for EDAM resource energy, IRU/IRD, RCU/RCD

- DAM BCR

- DAM GHG Settlements

- EDAM legacy contract settlements

- Neutrality

- RTM Imbalance energy Settlements refer to DAM schedule

- EIM ETSR Settlements

- RUC, RTM BCR

- GMC for EDAM

5.13.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-19010	**Consume EDAM IFM and RUC market data** Consume EDAM resource, nodal and network constraint hourly market data same as for CAISO resource nodal and constraint data in DAM • All the EDAM resource ID, physical and virtual and attributes - from MF and market • Clean and final bids for energy, IRU/IRD, RCU/RCD • Resource Awards for energy, AS, IRU/IRD, RCU/RCD • Resource and nodal prices, SP-Tie and components breakdown: energy, congestion by BAA, loss, GHG by GHG area • EDAM LAP, CLAP prices for energy • EDAM IRU/IRD imbalance Hub price and breakdown (Market) • EDAM BAA IRU/IRD IFM cleared requirement and relaxation • Binding Constraint and shadow price by BAA • BAA requirements for Energy, AS, IRUR/IRDR • BAA IRUS/IRDS • BAA Associated Imbalance Demand Hub Apnode	Existing	Settlements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-19014	**Consume EDAM market results** • Resource expected energy (EE), EE allocation and commitment cost (AUX cost) -Resource FMM ex-post capacity and allocation • Resource DAM 5 minute ramp-capable portion for Imbalance reserve • CRRS (CRR 1B) outputs by constraint–current design	Existing	Settlements

EDAM-BRQ-19020	**Access MF Data**
	System shall have the capability to automatically access and store the following data:
	• Registered DA-TSR pair
	   ○ ID
	   ○ Associated attributes
	   ○ Designated tagging entity
	   ○ RSE flag
	• Registered CRN definition and resource association
	• WECC on-peak definition from MF (6 am-10pm Monday through Saturday, except holidays)
	• WECC off-peak definition from market (10pm-12 am, 12 am-6am) Monday through Saturday, whole day of Sunday and holidays)
		Core	Settlements

EDAM-BRQ-19022	**Consume 16-Hour Block Priced at Hub (PV, Mid-C)** On daily basis, System shall consume the following data: • Bilateral trading Mid-C, PV Hub priced for Settlements surcharge for the BAA failed DA-RSE.	Existing	Settlements

EDAM-BRQ-19024	**Consume DA CRN and TSR SIBR Data**
	Upon IFM/RUC market close, and similar to other IFM/RUC data, System shall consume the following data:
	• Dynamic DA-TSR pair
	   ○ ID
	   ○ Associated attributes
	   ○ Designated tagging entity
	   ○ RSE flag
	• SIBR deemed pathway for the DA paired TSR by hour
	• Dynamic CRN definition and resource association
		Core	Settlements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• Any other resources with an association to a CRN (most will be ETC/TOR as defined in MF, or can be short term OATT sales)		
EDAM-BRQ-19025	**Consume All CRN MW Entitlements** System shall receive MW entitlement data with SC-submitted respective self-schedules for all CRNs after the market closes in both Day-Ahead and Real-Time.	Core	Settlements
EDAM-BRQ-19026	**Consume DA CRN TSR Market Data from IFM** Upon IFM market run, and similar to other IFM data, System shall consume the following IFM market results data: • EDAM Transfer resource (DA TSR) IFM hourly awards/schedules of energy, AS, IRU/IRD • DA TSR IFM hourly prices for Energy, AS, IRU/IRD • Any other resource with an association to a CRN (receive limits from market for any short-term rights sold	Core	Settlements
EDAM-BRQ-19028	**Consume DA TSR Market Data from RUC** Upon RUC market run, and similar to other RUC data, System shall consume the following RUC market results data: • DA TSR RUC hourly awards/Price of RCU/RCD	Core	Settlements

EDAM-BRQ-19030	**Consume DA RSE Deficiency and Procurement Requirement that include DB for EDAM BAA from DA-RSE**
	
	Upon DA-RSE run, System shall consume the following DA-RSE market results data:
	
	• Hourly EDAM BAA
	
	    ○ RSE success/failure flags for upward and downward capacity
	
	    ○ RSE upward requirement, requirement with DB and deficiency flag and amount (relax variable value) by commodities of upward Energy, RegU, Spin, NSpin, IRU, and deficiency upward (Energy & IRU)
	
	    ○ RSE downward requirement, requirement with DB and deficiency flag and amount by Energy, RegD, IRD, and deficiency downward (Energy & IRD)
		Core	Settlements

EDAM-BRQ-19042	**Fallback option for 16 hour block Hub price** • For the fallback in cases where the bilateral index prices are not broadcasted to Settlements: If the data is not consumed by	Core	Settlements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	Settlements, it should use the most recently available on-peak prices.		
EDAM-BRQ-19050	**Consume GHG MW and GHG price** • Consume GHG constraint shadow price by GHG regulation area by hour – from IFM	Core	Settlements
EDAM-BRQ-19051	**Consume GHG MW and GHG price** • Consume resource deemed GHG MW by GHG regulation area by hour – from IFM	Core	Settlements
EDAM-BRQ-19052	**Consume DA TSR, Dynamic and static TSR schedules from RTPD and RTD** • Consume DA TSR schedule and attributes -include pathway, CRN (with enumeration contract type of TOR/ETC/OATT 1/OATT 2) from RTPD and RTD • Consume Static and dynamic TSR schedule from RTPD and RTD	Core	Settlements
EDAM-BRQ-19055	**System shall consume interchange schedule breakdown by CRN data for EDAM/WEIM entities by market resource awards** • EDAM/WEIM entities shall submit breakdown by CRN data via RTSI • Map CRN	Core	Settlements
EDAM-BRQ-19056	**System shall consume interchange schedule breakdown by CRN data for CAISO BA** • Map CRN	Existing	Settlements
EDAM-BRQ-19060	**IFM Energy, AS, convergence bids, IRU/IRD, RCU/RCD payment for EDAM resource-same as ISO resources in DAM:** • Hourly Energy supply and demand, CB of supply/demand schedule/award at LMP, import/export at SP-Tie price • Hourly IRU/IRD awards at locational IRUP/IRDP price, import/export award at SP-Tie IRU/IRD price • Hourly Settlements for AS at ASMP for the ISO (existing). • No AS Settlements for EDAM BAA • Hourly RCU/RCD award at locational RCUP/RCDP, import/export at SP-Tie RCU/RCD price	Core DAME	Settlements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-19062	**Extend DAM cost allocation for commodities to EDAM BAA** • Extend to EDAM BAA DAM two tier cost allocation rules for energy. • AS Settlements for ISO - existing • Extend DAME two tier cost allocation for IRU/IRD, RCU/RCD cost allocation to EDAM BAA For IRU/IRD • Tier 1 to the FMM and DA deviation of resources of the BAA for ISO only • Tier 2 remainder to metered demand of the BAA for ISO, direct assignment to EDAM BAAs For RCU/RCD: • Tier 1 CB and load deviation for ISO and EDAM elected CB • Tier 2 remainder to metered demand for ISO, direct assignment to EDAM BAAs/Gen-only entity	Core DAME	Settlements
EDAM-BRQ-19063	**Calculate Internal Congestion Revenue for EDAM Entity** System shall calculate congestion revenue based on price differences in the MCC of the LMP across PNodes and interties within the EDAM Area. **Note** For the CAISO BAA, the congestion revenue associated with ISO allocation will be subject to Tariff §11 and adjusted for the ISO contracts.	Core	Settlements
EDAM-BRQ-19063a	**OATT 1 and OATT 2 transmission contract types shall have scheduling priority similar to ETC/TOR, but OATT 1 and OATT 2 do not have financial hedge as provided to ETC and TOR** Notes: • OATT 1: higher scheduling priority in RT than DA schedules • OATT 2: equal scheduling priority with DA schedules in RT • All other attributes for OATT 1 and OATT 2 are the same	Core	Settlements
EDAM-BRQ-19064	**Allocate Internal Congestion Revenue to EDAM Entity** System shall allocate collected EDAM BAA congestion revenue, adjusted for the EDAM contracts, to the EDAM Entity.	Core	Settlements
EDAM-BRQ-19070	**DAM resource GHG payment** • Access resource-specific MF defined flag for GHG regulation area Settlements	Core	Settlements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• Settle resource GHG payment as the product of Deemed GHG MW (attribution) of the GHG regulation area and GHG marginal GHG price for the GHG regulation area by hour for the resource		
EDAM-BRQ-19075	**Include DAM GHG in GHG regulation area neutrality** In DAM neutrality Settlements for EDAM footprint: • Marginal GHG Offset for each GHG regulation area is the sum of the product of energy/CB award payment and MGC - GHG payment for that regulation area, allocate to that GHG regulation area's metered demand	Core	Settlements
EDAM-BRQ-19080	**Extend non-compliance in DAME to EDAM** • No change for ISO resource AS no-pay rule ○ Do not apply AS no-pay rule to EDAM BAA • Non-compliance for IRU/IRD for the portion of excess 5-min ramp capability through IFM IRU/IRD schedule, at the higher price of (IRP, FMM FRP, RTD FRP) for EDAM BAA and ISO • Non-compliance for RCU/RCD portion in RTM will claw-back the RCU/RCD payment for EDAM BAA and ISO	Core DAME	Settlements

EDAM-BRQ-19090	**Calculate IFM Bid cost recovery for resource**
	
	• IFM Commitment period, for each EDAM BAA, the value of Res IFM daily revenue (EN/IR/AS (for ISO) payment) including RES GHG revenue does not cover the cost (cost of Startup, min load, transition, energy bid, AS bid (for ISO), IR bid include GHG bid cost) is eligible for IFM BCR
	
	    ○ Calculate IFM GHG bid cost as the product of IFM GHG award for each GHG regulation area and applicable GHG bid divided by the number of Settlements intervals in a trading hour
	
	    ○ Calculate GHG revenue as product of IFM GHG award and relevant MGC
	
	    ○ Imbalance reserve (IR) IRU/IRD payment and bid cost
		Core
		
		DAME
			Settlements

EDAM-BRQ-19100	**IFM BCR adjustment calculation and transfer:** • Calculate hourly BAA total IFM BCR amount • Adjustment based on transfer out for the BAA (payment) IFM BCR adjustment = BAA Total IFM BCR Amount * (Net transfer out / sum of (Net transfer out + IFM Load schedule + IFM virtual demand schedule + IFM Export Schedule)	Core	Settlements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• Calculate hourly distribution IFM BCR adjustment based on net transfer In for the BAAs (charge) IFM BCR Adjustment distribution = IFM BCR Adjustment * BAA Net IFM Transfer In / Total of BAA IFM Transfer In • Distribute total IFM BCR adjustment proration to BAA net transfer in • Allocate net BCR adjustment (Total BAA BCR +BCR adjustment+ BCR distribution by hour:, can be payment or charge) for the BAA to the EDAM entity by hour • For ISO to allocate BCR adjustment amount, use existing two-tier BCR allocation		

EDAM-BRQ-19110	**BAA DA-RSE Failure Surcharge Settlements – On-Peak Upward Deficiency**
	
	• System shall calculate the surcharge for on-peak (PCT) for the failing RSE BAA on 16-hour block as the higher price of the bilateral trading Hub (PV, Mid-C) based on max of hourly deficiency of the day, adjusted for credit for the hours passed, multiplied by failure scaling factors of tiers
	
	• System shall calculate the maximum of hourly upward deficiency of 16 hour of on-peak of the day
	
	    ○ Deficiency of each hour is calculated by adding the value of deficiency upward of energy, IRU, RegU/Spin/NSpin of the hour.
	
	• System shall calculate the surcharge Settlements for the EDAM BAA failed the RSE upward evaluation
	
	    ○ Tier 1
	
	        ▪ Maximum hourly deficiency less than Max of 10 MW or BAA forecast error for IRU, **no surcharge** (But BAA is not eligible for surcharge revenue)
	
	            ▫ Forecast error can be 1% (configurable) of IRU requirement in procurement that include DB
	
	    ○ Tier 2
	
	        ▪ maximum hourly deficiency is less than the 50% procurement (DB included) requirement of IRU, calculate surcharge
	
	        For 16 hour of on-peak in TD, calculate surcharge for each hour:
		Core	Settlements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted

	1.25*[max (0, (max interval shortfall* Hub price - (credit based on the weighted average IFM BAA LAP LMP for the BAA in RSE passed the hour))]
	
	   o Tier 3
	
	      ▪ Maximum hourly deficiency is larger than 50% procurement requirement IRU, calculate surcharge
	
	      For 16 hour of on-peak in TD, each hour:
	
	      2*[max(0, (max interval shortfall*Hub price- (credit based on the weighted average IFM BAA LAP LMP for the BAA in RSE in passed the hour))]
	
	Note: Hub Price is Bilateral trading Hub price (Mid-C PV)		

EDAM-BRQ-19115	**BAA DA-RSE Failure Surcharge Settlements – Off-Peak Upward Deficiency**
	
	System shall calculate Off-peak Upward deficiency surcharge on BAA LAP LMP, for each hour:
	
	• Tier 1
	   o Hourly deficiency less than max of 10 MW or BAA forecast error for IRU, **no surcharge**. BAA is not eligible for surcharge revenue
	
	• Tier 2
	   o Hourly deficiency is less than the 50% procurement requirement of IRU, calculate surcharge
	     1.25*[(interval shortfall*BAA LAP LMP load weighted average)]
	
	• Tier 3
	   o Hourly deficiency is larger than 50% requirement IRU, calculate surcharge
	     2.0*[(interval shortfall*BAA LAP LMP load weighted average)]
		Core	Settlements

EDAM-BRQ-19120	**BAA DA-RSE Failure Settlements – Downward Deficiency** For all the hours in any day, System shall calculate downward deficiency surcharge on BAA MEC LMP, for each hour: • Calculate total amount of deficiency of each hour as the sum of downward deficiency of energy, IRD, RegD • Calculate downward deficiency surcharge as deficiency * BAA MEC LMP **Note**	Core	Settlements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• For downward deficiency, de Minimis is 10.0 MW and **no surcharge**		
EDAM-BRQ-19130	**Increase Penalty 1% to On-Peak Upward Deficiency for every Additional Day of RSE Failure Retroactive 30 Day-Period** • For each EDAM BAA, System shall calculate the number of days on rolling 30 days for RSE upward failure (hours of upward failure count on-peak only) • System shall increase the penalty adders by 1% for every additional day a BAA failed the RSE test as an adder to tier 2 (base 1.25%) and tier 3 (base 2.0%) o Example: One additional failed day—tier 2 penalty becomes 1.2625%, tier 3 penalty becomes 2.02% **Note** • This penalty increase is not applicable for off-peak upward nor downward deficiency.	Core	Settlements

EDAM-BRQ-19140	**Allocate DA RSE failure surcharge to EDAM entity SC of BAA that failed DA RSE**
	
	    • Allocate each BAA surcharge to EDAM entity SC
	
	    • TBD: If ISO BAA receive the surcharge, then allocate per ISO EDAM BAA initiative
	
	Note: Subject to CAISO EDAM Participation Rules Initiative
		Core	Settlements

EDAM-BRQ-19150	**Allocate DA RSE failure surcharge revenue to EDAM entity SC passed DA RSE, up/down separately**
	
	• Allocate upward Surcharge Revenues to the EDAM BAA SCs with upward passed DA-RSE flags for all the hours of the day. An EDAM BAA will become ineligible for allocation of any upward surcharge revenue if it fails the EDAM RSE in the upward direction during any hourly interval across the day
	
	    o Allocate upward surcharge revenue pro-rata on volume of net export transfer, include energy transfer and IRU, RCU transfer of BAA by hour
	
	    o Allocate remaining upward surcharge revenue pro-rata to metered demand of BAA that passed upward test
	
	• Allocate downward Surcharge Revenues to the EDAM BAA SCs with downward passed DA-RSE flags for all the hours of the day. An EDAM BAA will become ineligible for allocation of any downward surcharge revenue if it fails the EDAM RSE in the downward direction during any hourly interval across the day
		Core	Settlements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	o Allocate downward surcharge revenue pro-rata on net import transfer of BAA, include energy and IRD, RCD by BAA, hourly, o Allocate remaining of downward surcharge revenue to the metered demand of BAA that passed DA-RSE downward test		
EDAM-BRQ-19160	**Backstop allocation: if no EDAM BAA avoids failure upward/downward for 24 hours, revert to hourly allocation** • If no EDAM BAA pass all 24 hours the DA RSE upward test, revert to hourly o For each hour, the BAA that passed DA RSE upward test will be eligible to receive the upward surcharge revenue for the hour, same allocation pro-rata to BAA • If no EDAM BAA pass all 24 hours the DA RSE downward test, revert to hourly o For each hour, the BAA that passed DA RSE downward test will be eligible to receive the downward surcharge revenue for the hour, same allocation pro-rata to BAA net import • No EDAM passed for a given hour, then the Surcharge revenue allocation will not be collected	Core	Settlements
EDAM-BRQ-19165	**Calculate DA TSR Transfer Revenue for Energy, IRU/IRD and RCU/RCD** • System shall calculate the hourly DA TSR Transfer Revenue for each TSR for each commodity type as the product of DA TSR transfer quantity times the difference between import and export EDAM BAA locational price for the corresponding commodity type: o Energy: ▪ Energy Transfer quantity ▪ EDAM BAA IFM energy LMP component (MEC) o IRU/IRD ▪ IRU/IRD Transfer quantity ▪ EDAM BAA IFM IRU/IRD price. o RCU/RCD ▪ RCU/RCD Transfer quantity ▪ EDAM BAA RUC RCU/RCD price.	Core	Settlements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• System shall calculate the hourly total DA TSR transfer revenue as the summation of DA TSR transfer revenues across all commodity types (Energy, IRU, IRD, RCU, and RCD).		

EDAM-BRQ-19170	**Allocate DA TSR Transfer Revenue for Energy, IRU/IRD and RCU/RCD**
	
	• If the DA TSR is not a pathway 2, System shall allocate the DA TSR Transfer Revenue 50/50 (equally) between the two EDAM BAAs on each side of the TSR (including CAISO BAA).
	
	• DA-TSR pathway 2 direct Settlements
	
	    o Consume DA TSR pathway 2 identifier from SIBR (transmission right released to the market in advance)
	
	    o For pathway 2 DA TSR, SC of pathway 2 direct receives revenue. The DA TSR market award considers the curtailment; can be less than the transmission right originally released.
	
	• For CAISO BAA allocation, refer to ISO BAA EDAM Participation Rules Initiative
		Core	Settlements

EDAM-BRQ-19172	**RT energy TSR in RTM WEIM subject to Settlements** • Access MF defined base, static/dynamic WEIM TSR with associated SC, CRN and NSC if applicable • Settle TSR with NSC if it is defined, or SC if there is no associated NSC • Consume the RTSI submitted self-schedule for the TSR with CRN • Settlements applies to both paired TSRs, • Settlements applies to all WEIM TSRs explicitly (note: a change from current WEIM)	Core	Settlements

EDAM-BRQ-19173	**Calculate WEIM transfer Revenue**
	
	• Calculate EIM Transfer revenue
	
	    o Product of transfer and BAA MEC
	
	    o Add paired WEIM TSR revenues
	
	Note: When the net EIM Transfer scheduling limit is binding, there will be separation of the Marginal Energy Cost (MEC) of the adjacent BAAs in the EIM. Then the EIM transfer revenue will be non-zero. If the limit is not binding, no separation of MEC of adjacent BAAs, therefore EIM transfer revenue will be zero.
		Core	Settlements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted

EDAM-BRQ-19174	**Allocation of WEIM transfer revenue**
	
	• Allocate transfer 50%:50% equally to the BAAs of each side of intertie, EIM entity will sub-allocate
	
	Except specified sharing arrangement as following:
	
	• For the CAISO BAA, allocate to SC of ETC/TOR holders consistent with the terms of the agreement concerning use of the transmission facilities supporting the EIM Transfer;
	
	• For an EIM Entity BAA that does not participate in the Day-Ahead Market in accordance with the associated EIM Transmission Service Provider tariff; and
	
	• For a WEIM Entity BAA that participates in EDAM
	
	    ○ TSR are not pathway 2, allocate the EIM Transfer revenue to the EIM Entity Scheduling Coordinator for further allocation by the EIM Transmission Service Provider in accordance with its tariff,
	
	    ○ TSR is *pathway 2*, allocate the EIM Transfer revenue to the Scheduling Coordinator for the EDAM Transmission Service Provider customer, or
	
	    ○ TSR is EDAM Legacy Contact or EDAM Transmission Ownership Right, allocate the EDAM Transfer revenue to the Scheduling Coordinator for the EDAM Legacy Contact or EDAM Transmission Ownership Right holder, respectively.
	
	      ○ Perfect hedge for the TSR that associate with CRN (ETC/TOR),
	
	      ○ The cost goes to imbalance energy offset
		Core	Settlements

EDAM-BRQ-19175	**Settlements for EDAM legacy Contracts, Ownership rights (ETC/TOR/OATT 1/ OATT 2) with CRN- allocate to EDAM entity** • Access the resources with CRN from MF • SC Self-scheduled energy using their transmission right will settle at the LMP • For the balanced portion of schedule eligible for mitigation against Congestion ○ Reversing the Marginal Cost of Congestion component of the LMP difference between the balanced source Day-Ahead Schedule and sink Day-Ahead Schedule, in the same manner as for ISO ETC/TOR	Core	Settlements

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	o Include the congestion cost in the IFM congestion revenue offset—then allocate to EDAM entity • The resource with special marginal losses provisions (defined in MF) will reverse the Marginal Cost of Losses component of the LMP o Allocate the Marginal Cost of Losses to EDAM entity		
EDAM-BRQ-19176	**Refund the cost with Financial SC for CRN** • If the CRN includes a financial right (marginal congestion and/or loss hedge), Settlements will refund the relevant cost (even if it is negative) to the Financial SC registered for the CRN (multiple SCs can self-schedule under the CRN, but only the Financial SC can receive the financial right)	Core	Settlements
EDAM-BRQ-19200	**DAM Neutrality Settlements:** • DAM Marginal Loss Offset: sum of product of BAA energy/CB award and MCL of EDAM BAA, allocate to EDAM entity and for ISO, to ISO measured demand • DAM Marginal Congestion Offset: sum of product of BAA energy/CB award and MCC breakdown of the EDAM BAA, allocate to EDAM entity, for ISO to CRR balance account apply to ISO CRR -1B • DAM Marginal GHG Offset: sum of BAA energy/CB award payment and MGC-GHG payment, allocate to GHG regulation area/non-GHG regulation area metered demand • DAM Marginal energy offset: sum of BAA energy/CB award and LMP less the MCL/MCC/MGC offsets, allocate to EDAM entity and ISO measured demand	Core	Settlements
EDAM-BRQ-19210	**RTM Settlements: use EDAM DAM schedule instead of Base schedule** Same as for CAISO, WEIM shall use DAM schedule instead of the base schedule for reference point to calculate the imbalance energy.	Core	Settlements
EDAM-BRQ-19220	**RTM Settlements: RTM Resource Energy deviation Settlements from EDAM, like ISO** **For EDAM resources:** • FMM IIE, use IFM schedule as reference point • Load UIE = load meter - IFM load schedule of EDAM BAA • UIE and UFE apply to EDAM BAAs like ISO	Core	Settlements

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• UFE selection apply to EDAM BAA (only deal with meter side of it)		
EDAM-BRQ-19230	**RTM Settlements: RTM Resource GHG deviation Settlements from EDAM** • RTM GHG (FMM) is a deviation Settlement from IFM GHG Settlements (FMM GHG attribution less DAM GHG) for the external resources that serve GHG area load, pay to the resource • RTM GHG (RTD) is a deviation Settlements from FMM GHG Settlements (RTD GHG less FMM GHG) for the external resource serve GHG area load, pay to the resource -existing	Core	Settlements

EDAM-BRQ-19240	**RTM Settlements: RTM Resource TSR deviation Settlements from EDAM**
	
	• The CAISO will provide each EIM Entity with financially binding Settlements of Energy transfer schedule changes will be referenced from the Day-Ahead Schedule for the EDAM Transfer
	
	• RTM transfer TSR is a deviation Settlements from IFM Energy transfer
	    ○ FMM transfer shall settle as a deviation from DA, if applicable (FFM IIE) at LMP* of SP-tie between WEIM BAAs, including the ISO
	    ○ RTD transfer shall settle as a deviation from RT (RTD IIE) at LMP* of SP-tie between WEIM BAAs, including the ISO
		Core	Settlements

EDAM-BRQ-19250	**RTM Settlements: RTM Resource FRP forecast movement deviation Settlements from EDAM** • Extending to EDAM • FRP forecast movement imbalance from IFM forecast movement and uncertainty is an imbalance Settlements of 5 minute ramp portion from DAM • FMM forecast – IFM (EDAM) or Base (EIM) forecast movement • For RTD to FMM no pay will not change	Core	Settlements
EDAM-BRQ-19260	**RTM Settlements: Under/over schedule charge shall not apply to EDAM BAAs** Same as for CAISO in WEIM, no under/over schedule charge is applied to EDAM BAAs	Core	Settlements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-19270	**RTM Settlements: Treat EDAM pool, sub-pool of AET, non-AET as a super BAA** • Consume the upward pool, sub-pool of AET/non-AET from market • WEIM RSE failure surcharge shall be applied to the insufficient amount of WEIM RSE the sub-pooled AET EDAM BAAs: ○ Allocate surcharge proportionally to net import transfer beyond net DAM/base net transfer BAAs in upward AET sub-pool • The Non-AET Sub-pool will not be subject to surcharge. • AET surcharge revenue is allocated to the BAA that pass the RSE and have net export transfer beyond base net export transfer	Core	Settlements
EDAM-BRQ-19272	**For the upward Pool that passed EIM-RSE:** • The pool is not subject to the AET surcharge, regardless BAA in the pool is a net import BAA • Allocate the surcharge revenue to BAAs and the pool of BAAs that passed RSE, proportional to BAA/pool net transfer export beyond base • For the pool that receives the surcharge revenue ○ Allocate proportionally to the BAA in the pool that have net export transfer beyond base	Core	Settlements
EDAM-BRQ-19274	**EDAM BAAs in the EDAM RSE downward pool will not be charged/receive AET surcharge/revenue, but can be added to the RT RSE pool**	Core	Settlements

EDAM-BRQ-19280	**RTM Settlements: Real Time Offset Settlements**
	• Real Time Marginal Loss Offset is unchanged
	• Real Time Congestion Offset
	    ○ Include any adjustment to account for schedules associated with EDAM transmission rights
	• Real Time Imbalance Energy Offset: modified to account for imbalance energy, virtual bids at marginal energy cost
	    ○ Remove financial value transfer and GHG financial value
	• RT offsets for each BAAs, allocate to EDAM/WEIM entity and ISO measured demand per Tariff –existing
		Core	Settlements

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-19282	**Access MF defined GHG area and associated DAM GHG area resources and RTM GHG area resources** Example: CA: GHG area Associate: DAM: CAISO resources RTM: CAISO+LA+BANC resources	Core	Settlements
EDAM-BRQ-19284	**Real Time GHG Offset:** • Imbalance energy, virtual bids MW in GHG regulation area at marginal GHG cost • Imbalance GHG attribution associated to the GHG regulation area and GHG marginal price • The offset determines if there is neutrality o Allocate neutrality to the GHG regulation area metered demand	Core	Settlements
EDAM-BRQ-19286	**DAM GHG Offset** • Energy schedule/CB award and MGC-GHG price • GHG DAM attribution associated to the GHG regulation area and GHG marginal price • Allocate neutrality to GHG regulation area DAM IFM schedule load.	Core	Settlements
EDAM-BRQ-19287	**Intertie deviation penalty shall apply to ISO only** • No Intertie Deviation penalty for other EDAM/WEIM BAAs, only for ISO	Core	Settlements
EDAM-BRQ-19288	**RT system offsets across WEIM footprint for each BAAs** • Imbalance, GHG allocate to EDAM entity and ISO measured demand • Add RT system offset apply to WEIM area consider FMM RTD	Core	Settlements
EDAM-BRQ-19289	**UFE Settlements election process shall apply to EDAM BAA as well as WEIM BAAs**	Existing	Settlements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-19290	**RTM Settlements: Reversal (liquidation) settle at FMM LMP for CB EDAM resource DAM awards** Same as for CAISO: Supply/Demand awards for virtual resources will be reversal (demand/Supply) settled in FMM LMP for EDAM resource with CB awards	Core	Settlements

EDAM-BRQ-19291	**RTM Settlements: RUC BCR for net surplus/shortfall for EDAM**
	
	For each EDAM BAA, calculate RUC surplus/shortfall for each resource that awarded RCU/RCD
	
	• Calculate Res RUC Revenue (RCU/RCD payment less no-pay)
	    ○ RCU award at RCU price less no-pay
	    ○ RCD award at RCD less no pay
	    ○ Sum them together
	• Calculate Res RUC Cost (RCU/RCD commitment and Bid Cost for the RUC award less no-pay amount)
	    ○ RCU commitment cost less no-pay
	    ○ RCD commitment cost less no-pay
	    ○ Sum them together
	• Net RUC revenue and cost, determine surplus/shortfall
		Core	Settlements

EDAM-BRQ-19293	**RTM Settlements: RTM BCR for net surplus/shortfall for EDAM BAA** • Res RTM Revenue (IIE, AS, FRP GHG Settlements) • Res RTM Costs include (SUC, MLC, TC, IIE bid cost, AS bid cost, GHG bid cost) • Sum them together • Net the RTM revenue and cost, determine surplus/shortfall	Core	Settlements
EDAM-BRQ-19294	**EDAM BAA will have BCR sequential netting apply between RUC surplus/RTM shortfall, as well as RUC shortfall/RTM surplus** • The value of sequential netting RUC revenue and RUC cost, RTM revenue and RTM cost Res, daily revenue not cover the cost is eligible for RTM BCR • EIM sequential netting of RUC and RTM Bid Cost Uplift • Within each EIM BAA, do sequential netting of RUC and RTM Bid Cost Uplift similar to CAISO BAA	Core	Settlements
EDAM-BRQ-19295	**RUC BCR allocation adjusted for net transfer** After sequential netting, the RUC BCR adjustment shall apply: • Apply RUC transfer adjustment to RUC BCR	Core	Settlements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	o RUC BCR adjustment = Total BAA RUC BCR Amount * (Reliability Capacity Net transfer out / sum of (Reliability Capacity (RC) Net transfer out + measured demand) o RUC BCR Adjustment distribution = RUC BCR Adjustment * BAA Reliability Capacity Net Reliability Capacity Transfer In / (Total of all BAA net Reliability Capacity Transfer In) • For EDAM BAA, RUC BCR costs shall be allocated to entity • For ISO, RUC BCR in alignment with RCU cost allocation, to net virtual supply and under scheduled load -DAME Note: RUC RC net transfer quantity equal to RC up less RC down, to determine the net transfer out/in		
EDAM-BRQ-19296	**HASP reversal shall apply to EDAM BAA IFM intertie schedule** Same as ISO, EDAM BAA's Intertie schedules awarded an energy schedule in the day-ahead market that subsequently have an incremental/decremental FMM schedule change in the RTM and did not submit an energy profile tag prior to HASP, will be subject to the HASP reversal rule applied through settlements **HASP reversal does not apply to transfer**	Core	Settlements
EDAM-BRQ-19297	**Implementation fee** • The CAISO will recover the cost to implement each EDAM Entity, which may vary depending on the size and complexity of the project • A $300,000 deposit will be collected from prospective EDAM Entities to cover the actual start-up costs incurred. If the deposit exceeds the actual cost incurred to provide onboarding services, the CAISO will refund the excess amount, including any Interest accrued on the remaining deposit • If the actual implementation costs exceed the deposit, additional deposits in $300,000 increments will be required, which the EDAM Entity must pay within thirty (30) days of receiving the invoice. Any invoice payment past due will accrue interest	Core/process/ finance	Finance
EDAM-BRQ-19298	**EDAM administrative fees (GMC)** • EDAM Administrative charge: volumetric charge (Settlements) o Existing market service represents fees for the real-time market and the day-ahead market services that EDAM offers and applies to awarded MWh of energy and MW of capacity	Core	Settlements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	- o EDAM system operations charge represents the fees for real time dispatch services that EDAM offers and it applies to metered flows in MWh of supply and demand - Once a WEIM entity begins participating in the EDAM, it will no longer pay WEIM administrative fees, only EDAM administrative fees - o **Charge** EDAM Administrative charge **on daily basis if BAA is a EDAM or WEIM BAA** - If Entity leaves EDAM and goes back to just WEIM, WEIM Administrative charge shall apply - TOR/ETC GMC fee does not apply to EDAM, only apply as today. EDAM TOR/ETC will be treated as normal resource. Note: Subject to change under New Cost of Service Initiative		
EDAM-BRQ-19370	**Flexible Ramp Forecasted Movement Settlements** - The system shall calculate FRU and FRD FMM forecasted movement as a deviation Settlements from DA forecasted movement - The system shall calculate FRU and FRD RTD forecasted movement as a deviation Settlements from FMM forecasted movement	Core	Settlements
EDAM-BRQ-19380	**Flexible Ramp Forecasted Movement Allocation** - System shall allocate FRU and FRD FMM and RTD forecasted movement Settlements to the pass group, or BAAs or pool that fail: - o For BAAs that fail WEIM RSE, allocate to WEIM BAA that failed EDAM AET sub-pool, and EDAM RSE non-AET sub-pool based upon pro-rata metered load of those pools or BAAs	Core	Settlements
EDAM-BRQ-19390	**Uncertainty Up Settlements** - The system shall settle FMM FRU awards as a deviation Settlements from the 5-minute ramp capable imbalance reserve award at the FMM FRU price - The system shall settle RTD FRU awards as a deviation Settlements from the FMM FRU awards at the RTD FRU price	Core	Settlements
EDAM-BRQ-19400	**Uncertainty Up Allocation** The system shall allocate the total RTM FRU uncertainty cost through the two-tier allocation methodology based upon the FRU pass group, or BAAs/pool that fail	Core	Settlements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	o If the EDAM Pool fails the WEIM RSE test, the BAAs associated with the EDAM pool will create two sub-groups based on their AET elections (AET and non-AET). o WEIM-only BAAs that fail the WEIM RSE will be assessed as standalone BAAs. o The WEIM BAAs and EDAM Pool that pass the WEIM RSE shall be grouped together in the FRU pass group. o		
EDAM-BRQ-19410	**Uncertainty Down Settlements** • The system shall settle FMM flexible ramp uncertainty awards as a deviation Settlements from the 5-minute ramp capable imbalance reserve award at the FMM FRD price • The system shall settle RTD flexible ramp uncertainty awards as a deviation Settlements from the FMM FRD awards at the RTD FRD price	Core	Settlements
EDAM-BRQ-19420	**Uncertainty Down Allocation** • The system shall allocate the total RTM FRD uncertainty cost through the two-tier allocation methodology based upon the FRD pass group, or BAA/pool that failed o The EDAM Pool that fails the WEIM Downward RSE test shall settle as an EDAM BAA group o	Core	Settlements
EDAM-BRQ-19430	**CAISO's assessment and payment of charges to, and collection of charges from, EDAM Market Participants** With regard to the CAISO's assessment and payment of charges to, and collection of charges from, EDAM Market Participants pursuant to Sections 11 and 33.11, and 29.11, the CAISO will assess, pay, and collect such charges, address disputed invoices, assess, pay and collect Settlements-related fees and charges, including those under Sections 11.21, 11.28, and 11.29, and make any financial adjustments in accordance with the terms and schedule set forth in Section 11 • Settlements shall publish trade day statement, invoice, and support data automatically	Existing Process	Settlements
EDAM-BRQ-19440	**Creditworthiness** EDAM Entity Scheduling Coordinators, EDAM Load Serving Entity Scheduling Coordinators, and EDAM Resource Scheduling Coordinators must comply with the creditworthiness requirements of the CAISO Tariff.	Process	Finance

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	In the event EDAM Entity Scheduling Coordinators, EDAM Load Serving Entity Scheduling Coordinators, or EDAM Resource Scheduling Coordinators fail to satisfy the credit or other requirements in Section 12, the consequences specified in Section 12 will apply.		
EDAM-BRQ-19450	**Dispute Resolution** Confirmation and validation of any dispute associated with the participation of EDAM Market Participants in the Day-Ahead Market is subject to Section 11.29.8 and will be managed through the CAISO's customer inquiry, dispute, and information system and as provided in the Business Practice Manual for the Extended Day-Ahead Market. EDAM Market Participants will be subject to dispute resolution pursuant to Section 13	Existing Process	Settlements
EDAM-BRQ-19460	**FRP Monthly Resettlement Up Allocations**	Existing Process	Settlements
EDAM-BRQ-19470	**Monthly Resettlement Down Allocations**	Existing Process	Settlements
EDAM-BRQ-19480	**Calculate IR congestion revenue** • Calculate congestion revenue for supply as product of the award of IR and IR MCC of LMP by BAA • Calculate the aggregated IR adjusted requirement on aggregated MCC of IRMP (IR requirement less the demand curve adjustment) ○ IRUR/IRDR by BAA ○ IRUS/IRDS by BAA ○ Deployment factor by IRU/IRD ○ Aggregate IRUMP/IRDMP (all the location of IRUR/IRDR allocated) and components by BAA (MP of IR and MCC for IR congestion, no loss and no GHG)	Core	Settlements
EDAM-BRQ-19490	**Force Majeure, Indemnity, Liabilities, and Penalties** The provisions of Section 14 regarding Uncontrollable Force, indemnity, liability, and penalties will apply to the participation of EDAM Market Participants in the Day-Ahead Market	Existing Process	Settlements
EDAM-BRQ-19500	**Good faith negotiations (neutrality):**	Process	Settlements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	The CAISO shall be authorized to levy additional charges or make additional payments as special adjustments in regard to: • Amounts required to reach an accounting trial balance of zero in the course of the Settlement process in the event that the charges calculated as due form CAISO Debtors are lower than payments calculated as due to the CAISO Creditors for the same TD • Awards payable by or to the CAISO pursuant to good faith negotiations or CAISO ADR Procedures that the CAISO is not able to allocate to or to collect from a MP in accordance with Tariff Section 13.5.3		

5.14 Business Process: Manage Market Reporting (CMRI, OASIS, Today's Outlook)

- Extend DAM reports, results, and schedules to EDAM

- Report DA RSE binding and final results and pool compositions

- Report DA TSRs and tags

- Report GHG attributions (DA and RT)

5.14.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-20000	**Extend DA Market Results to EDAM resources**	Existing	CMRI
EDAM-BRQ-20010	**New Report shall be accessible to transmission customers and EDAM entity on each side of the transfer** • Limit, RSE flag, and pathway 2 (BAA level)	Core	CMRI
EDAM-BRQ-20011	**New Report shall be accessible to transmission customers and EDAM entity SCs on each side of the transfer** • Limit, RSE flag, and pathway 2 (resource level)	Existing	CMRI
EDAM-BRQ-20013	**New Report shall be accessible to transmission customers and EDAM entity on each side of the transfer** • New dropdown: TSR transfer resource used capacity after DAM	Core	CMRI
EDAM-BRQ-20020	**Create new report for DA GHG Attributions to include multiple GHG areas for Resource SC** • GHG Area: CA Attributions (CA GHG Awards) • GHG Area: WA Attributions (WA GHG Awards)	Core	CMRI
EDAM-BRQ-20022	**Create new report for DA GHG Attributions to include multiple GHG areas for Resource SC** • New product: Resource GHG reference point from GHG pass	Core	CMRI
EDAM-BRQ-20023	**Create new report for DA GHG Attributions to include multiple GHG areas for Resource EDAM entity** • GHG Area: CA Attributions (CA GHG Awards) • GHG Area: WA Attributions (WA GHG Awards)	Core	CMRI
EDAM-BRQ-20024	**Create new report for DA GHG Attributions to include multiple GHG areas for EDAM entity**	Core	CMRI

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• New product: Resource GHG reference point from GHG pass		
EDAM-BRQ-20030	**Create a new report for RT (include both FMM and RTD) GHG Attributions to include multiple GHG Areas for Resource SC** • GHG Area: CA attributions (CA GHG Awards) • GHG Area: WA attributions (WA GHG Awards)	Core	CMRI
EDAM-BRQ-20031	**Create a new report for RT (include both FMM and RTD) GHG Attributions to include multiple GHG Areas for EDAM entity** • GHG Area: CA attributions (CA GHG Awards) • GHG Area: WA attributions (WA GHG Awards)	Core	CMRI
EDAM-BRQ-20040	**Extend DA Commodity Price Report to EDAM resources** • Generation Commodity prices for Energy, IRU/IRD, and RCU/RCD. • Import-Export Commodity prices for Energy, IRU/IRD, and RCU/RCD. • Demand Commodity Prices for Energy	Existing	CMRI
EDAM-BRQ-20050	**New report for both Resource Specific Advisory and Binding/Final 10 am RSE Run reports made available for the resource SC** • Resource Awards for Energy, IRU/IRD, AS	Core	CMRI
EDAM-BRQ-20051	**New report for both Resource Specific Advisory and Binding/Final 10 am RSE Run reports made available from the EDAM Entity** • Resource Awards for Energy, IRU/IRD, AS	Core	CMRI
EDAM-BRQ-20054	**Allow the EDAM entity to view all resource schedules within the EDAM entity BAA** Include: 1. Day-Ahead Generation Market Results (Generator schedules within the EDAM BA) a. Energy, IRU/IRD, RCU/RCD 2. Day-Ahead Demand Market Results (Load schedules within the EDAM BA) 3. DA Import-Export Schedules (within the EDAM BAA) 4. Day-Ahead Ancillary Service Market Results (AS Schedules)	Core	CMRI

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	5. Day-Ahead Unit Commitments (DA commitment) Grouped as part of a new "BAA Day-Ahead" tab		
EDAM-BRQ-20057	**New report for interchange schedule data broken down by CRN for both EDAM/WEIM entities and CAISO BA**	Core	CMRI
EDAM-BRQ-20065	**Extend DAM reports to EDAM BAAs** • Includes DAM Demand, IRU/IRD, RCU/RCD requirements, transfer of EN/IR//RC, MPM, LMP, polynomial coefficients, public bids, and uplift Settlements reports. • Final list of impacted reports TBD	Existing	OASIS
EDAM-BRQ-20068	**Publish EDAM BAA and WEIM BAA level constraint MPM results for DAM and RTM** • Market (IFM, RUC, RTPD, RTD) • BAA • Interval • Constraint PBC • Constraint cause • Shadow price: as the difference between BAA MEC and ISO MEC (similar to current constraint shadow price reports)	Existing	OASIS
EDAM-BRQ-20070	**New Report for Aggregated/BAA Level Final/Binding 10 am RSE Report to EDAM BAAs** • EDAM BAA RSE hourly upward requirement, requirement with DB and deficiency (relax variable value) by commodities of upward Energy, RegU, Spin, NSpin , IRU (upward deficiency for Energy & IRU together) • EDAM BAA hourly downward requirement, requirement with DB and deficiency by Energy, RegD, IRD (Downward deficiency EN & IRD together) • Include pass indicator to denote the BAs that passed the RSE and IFM/RUC PBC constraint: o DA RSE Pass Indicator: provide the binding DA RSE pass/fail results	Core	OASIS

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	o IFM Pass Indicator: provide the post IFM PBC results o RUC Pass indicator: provide the post RUC PBC results Note: WEIM counterpart report is being moved from CMRI to OASIS as part of RSEE Phase 2 scope.		

EDAM-BRQ-20080	**New Report for Aggregated RSE Advisory Run Results**
	
	• Report DAM-RSE advisory test schedules and pass/fail results to EDAM BAAs in same manner as for WEIM for each resource
	
	• Include pass indicator to denote the BAs that passed RSE:
	    o DA RSE Pass Indicator: provide the advisory DA RSE pass/fail results
	        ▪ Provided every 30 minutes
		Core	OASIS

EDAM-BRQ-20082	**New Aggregated RSE requirement movement between EDAM BAAs** • Consume hourly requirements, procurement requirement with DB, and RSE adjusted requirement by commodity by BAA for energy, AS and IRU, IRD • Report the hourly RSE requirement, DB adjusted requirement and TSR adjusted requirement by commodity by EDAM BAAs for every RSE runs between 6 am and 10 am	Core	OASIS
EDAM-BRQ-20084	**New publish: Hourly advisory IRU/IRD requirements for each EDAM BAA for D+2 and D+3** Publish hourly IRU/IRD advisory requirements for EDAM BAA for D+2 and D+3	Core	OASIS
EDAM-BRQ-20090	**New Publish Net Transfer DA TSR** • BAA aggregated net transfer DA TSR by energy, IRU/IRD, RCU/RCD	Core	OASIS
EDAM-BRQ-20100	**New Publish: total net GHG Import Transfer deemed for each GHG regulation area by market type** • Breakdown for each market type (DA, FMM, RTD) for each GHG regulation area (CA and WA) Note: previously called "Export Allocations" now called "Import Transfers"	Core	OASIS

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-20110	**New Report for the status of the transmission and energy profiles of the e-Tag as a result from the DAM award for system resources and TSR Resources (3 hours after DAM result publication)** • Consume EDAM entity submitted import schedules tag MW (from SIBR) three hours after DAM close • Publish gross amount of import intertie schedules that are tagged (including import transfers) for each EDAM entity o E.g. 500 MW gross intertie schedule, 450 MW are tagged (50 MW un-tagged)	Core	OASIS
EDAM-BRQ-20120	**New Publish composition of Upward and Downward Pool at T-5 hours (5 hours before operating hour)** • Consume EDAM Entity Tagging shortfall and resupply tests (from SIBR) at T-5 hours (5 hours before operating hour) • Gross import schedule • Gross import tagged • Gross upward re-supply: Aggregate incremental energy bid range above DA schedule, unencumbered by upward capacity awards • Publish composition of upward EDAM pool and downward EDAM pool and which BAAs are not included in the pools Note: the composition of the Upward pool is determined by entities that pass the resupply test; The composition of the downward pool is determined by DA RSE test results This report will have to put the two data sets together	Core	OASIS
EDAM-BRQ-20130	**New Publish DA load forecasts for EDAM entities for each RSE run** • Consume DA LF for EDAM Entity from pre-market for each DA RSE run. • Forecasts shall be locked at 9 am	Core	OASIS
EDAM-BRQ-20140	**New Publish DA VER forecasts for EDAM entities for each RSE run**	Core	OASIS

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	• Consume DA VER forecast for EDAM Entity from pre-market for each DA RSE run. • Break down forecasts by resource type (solar vs. wind) • Forecasts shall be locked at 9 am		
EDAM-BRQ-20145	**Extend Flexible Ramp Requirements Input polynomial and Input uncertainty histograms for EDAM pools and sub-pools at Day-ahead and TH-5 hr** o Consume the FRP estimates for EDAM up/down pools and AET/non-AET sub-pools at the time that DAM result posted or at TH-5hr o Publish Flexible Ramp Requirements Input polynomials by hour (HE01-HE24), by corresponding BAA group (EDAM pools or sub-pools), by market (RTPD and RTD), by the time of estimation (DA or TH-5 hr) o Publish Flexible Ramp Requirements Input uncertainty histograms by hour, BAA group, market, and time of estimation	Core	OASIS
EDAM-BRQ-20150	**Extend TD+90 Public Bids Reporting to EDAM** • Publish anonymized bids for energy, IRU/IRD and RCU/RCD products for EDAM entities	Core	OASIS
EDAM-BRQ-20156	**EDAM Net Export Transfer Constraint Input Parameters (new report):** System shall publicly display the following input parameters to the Net EDAM Export Transfer Constraint for each EDAM BAA (ISO BAA inclusive), Trade Date, Trade Hour: - EDAM BAA ID (filterable, inclusive of ISO BAA) - Trade Date (filterable) - Trade Hour (filterable) - Reliability Margin - Confidence Factor - Activation Flag - Stressed Hour (for ISO BAA only) - Reason Code - Reason Comment	Core	OASIS

Copyright 2023 California ISO

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	Multiple filters shall be cumulative. All reported fields shall be sortable and retrievable through API query by public viewers under the guidelines of Acceptable Use.		
EDAM-BRQ-20245	**Add EDAM data to Today's outlook** • Include EDAM entity data in Demand, Supply, Emissions, and Prices tabs	Core	Today's Outlook
EDAM-BRQ-20260	**No NPM related reports for the BAs that join EDAM** Access Master File defined NPM, EDAM	Process	CMRI, OASIS

5.15 Manage FERC Reporting

- Publish EDAM Market Data to FERC

- Publish EDAM Settlements Data to FERC

5.15.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
EDAM-BRQ-20227	**Extend Publish of DAME-related data to EDAM to FERC** System shall extend consume, store and publish FERC DAME data to EDAM.	Core	Internal ISO System
EDAM-BRQ-20230	**Publish EDAM Market Data to FERC** System shall have the capability to automatically consume, store and publish the following data to FERC: • EDAM binding Market Data, including DAM-RSE data	Core	Internal ISO System
EDAM-BRQ-20240	**Publish EDAM Settlements Data to FERC** System shall have the capability to automatically consume, store and publish the following data to FERC: • EDAM Settlements Charge Codes	Core	Internal ISO System
EDAM-BRQ-20242	**Consume/Access, Store and Publish DR LF Adjustment Data to FERC** System shall the capability to automatically consume/access, store and publish the following data for EDAM BAAs to FERC: • ALFS-DF-Submitted DR LF Adjustments • STF- DR LF Adjustments	Core	Internal ISO System

5.16 Business Process: Manage Outages (WebOMS)

- Allow EDAM entity to activate/deactivate constraints

5.16.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted

EDAM-BRQ-22049	**Allow EDAM entity to access Market Impact Tab in WebOMS**
	
	• Access MF defined EDAM Entity and associated EDAM BAAs
	
	• Allow EDAM entity to access the WebOMS Market Impact Tab for the EDAM BAAs
	
	   o EDAM Entity access (view, submit and modify) to Market Impact tab shall only be restricted to Contingency and Flowgate.
	
	   o Real-Time Market Operator (RTMO)'s access to Market Impact shall be expanded to EDAM Entity's transmission outages.
	
	   o System shall be updated to display TOPA for each contingency on Market Impact tab.
	
	   o EDAM Entity shall only be able to view/modify Market Impacts on outage cards created by their computed Transmission Operator Provider (TOP).
	
	   o Other TOPs that are not EDAM participants shall not be allowed to view the Market Impacts tab on any outage card, including their own.
	
	   o EDAM Entity shall **not** have the ability to view the Market Impacts (contingency/flowgates) on transmission outages where they are not the participant creating the outage but they are one of the computed TOPs if the outage card has shared equipment belonging to this EDAM Entity.
		Core	WebOMS
			
			AIM

EDAM-BRQ-22050	**Allow EDAM entity to activate/deactivate constraints** • Consume EDAM entity submitted status of activate/deactivate constraints through API/UI o Flowgate	Core	WebOMS

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	Contingencies • CAISO operators shall continue to use Outage cards to set the status of constraints as they do today **Notes** • DAM will use the latest set of Activated/De-activated constraints statuses that are consumed before DAM market runs (by 9 am, enforced by DAM). • The number of activated constraints will be limited to 15 per EDAM Entity (managed outside WebOMS). • Support incremental changes on default status of constraints. • MOC is not currently available for EDAM BAAs. • OE to determine the flowgate enforcement only or include conformance available to EDAM BAA.		

Copyright 2023 California ISO

5.17 Business Process: Market/Business Simulation

This section shall provide a basis for the development of the Market/Business Simulation Scenarios. These requirements will provide guidance on the market participant impacts, inputs into the Scenarios, endpoints to the Scenarios and reasons for potential Scenarios. The guidance on market participant impacts shall be gathered from the requirements that impact rules, interfaces, applications/reports, new system processes, new/modified data models, and new user roles. The source and sink systems shall be determined through the development of the system context diagram and the web service requirements. The *Reason for the Potential Scenario* column will be to offer guidance regarding what potential scenarios, and their context, may be needed for this project. This section applies to all policy development projects, market enhancements, technology enhancements, operation enhancements, Energy Imbalance Market (EIM) implementations, and Reliability Coordination (RC) service implementations. If the project team has deemed that no structured testing is needed, an end-to-end test case must be specified.

In the Reason for Potential Scenario column, select one or more of the following reasons:

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 Settlements 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 or export provided by the ISO.

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). Scenarios are beneficial for market participants taking on a new function or process within their organization.

5.17.1 Business Requirements

ID#	Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario
EDAM-MSIM-BRQ-24020	**EDAM Market Simulation pre-condition** On condition of • On-boarding entity • Connectivity • EDAM entity operator Training • Interface, integration	TBD	TBD	EDAM On-Boarding
EDAM-MSIM-BRQ-24040	**SC submit bids** Entity shall submit AS requirements EDAM resource SC shall submit supply, demand bids, Submit CB bids, GHG bids for the GHG area, IRU/IRD bids, RCU/RCD bids All resources including non-participating will need integration ISO run and publish market award and Locational prices, Settlements	• MP	• SIBR • BAAOP • CMRI • OASIS • Settlements	1. Rule Impacts 2. Interface changes 3. new application /report 4. New system process
EDAM-MSIM-BRQ-24060	**EDAM entity, TO submit TSR limits** Submit TSR limits Market will associate the attributes: RSE, pathway, and CRN	• MP	• SIBR • BAAOP • CMRI • OASIS • Settlements	1. Rule Impacts 2. Interface changes 3. new application /report 4. New system process

Copyright 2023 California ISO

ID#	Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario
EDAM-MSIM-BRQ-24080	**RSE Host App on-demand**	• EDAM Entity	• RSE HA	2. Interface changes 3. new application /report 4. New system process Owner: A. Vaidya
EDAM-MSIM-BRQ-24100	**DA-RSE tests** Entity view the test at 6 am, 9 am, and 10 am RSE result ISO run RSE, publish results	• DA-RSE	• SIBR • BAAOP • CMRI • OASIS • Settlements	1. Rule Impacts 2. Interface changes 3. new application /report 4. New system process
EDAM-MSIM-BRQ-24120	**EDAM GHG pass and GHG award** Entity to submit GHG bids ISO runs GHG pass and IFM Publish GHG resource reference, and GHG awards	• GHG Reference Pass	• SIBR • BAAOP • CMRI • OASIS • Settlements	1. Rule Impacts 2. Interface changes 3. New application /report 4. New system process

ID#	Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario
EDAM-MSIM-BRQ-24140	**EDAM entity submit DA schedule TSR tags** ISO to check the tags to determine the EDAM pools in RTM RSE	• RTSI	• RTM • CMRI • OASIS	Rule Impacts
EDAM-MSIM-BRQ-24160	**EDAM Entity activate constraints, adjustment** • Net transfer out constraint activation • Activate the nomogram –depending on further discussion with OE--develop procedure for EDAM before 10 am. Later, if allow on-fly as for ISO today ISO shall enforce the constraint	• BAAOP	• DAM	2. Interface changes
EDAM-MSIM-BRQ-24220	**Settlements for EDAM** EDAM resource Settlements extended from DAM, and DAME TSR for En/IR/RC EDAM Administrative charge Surcharge for RSE failure RTM deviation Settlements for En/GHG/FRP/TSR BCR	• Settlements	• Settlements	
EDAM-MSIM-BRQ-24240	**DR LF Adjustment Submission via ALFS-SOA API** **(refer to RSEE2-MSIM-10140)** • Set up a scenario where EDAM Entity participants signed required attestation and submit DR LF Adjustments via ALFS-SOA API (that reflect Non-Participating DR Schedules), on LF zone level, to CAISO. • Run market (DAM). • Follow the results in the sink systems.	• ALFS-SOA	• CMRI • OASIS	1. Rule Impact 5. New/Modified model data

	Template Version:	6.8
California ISO — **Technology**	**Document Version:**	1.2
Extended Day Ahead Market **Business Requirements Specification - Planning**	**Date Created:**	8/1/2023

Appendices

Appendix A: Formulas, Calculation Details, and Examples

Appendix A0: Acronym Definition

Acronym	Definition
A2A	Application-to-Application
ABC	Available Balancing Capacity
ACL	Access Control List
ADS	Automatic Dispatch System
AET	Assistance Energy Transfer
AGC	Automatic Generation Control
AIM	Access and Identity Management
AM	Additional Margin
AMS	Agreement Management System
ALFS	Automated Load Forecast System
Anode	Aggregate Node
API	Application Program Interface
Apnode	Aggregate Pricing Node
AS	Ancillary Services
AUX	Auxiliary
B2B	Business-to-Business
BA	Business Analyst
BAA	Balancing Authority Area
BAAOP	Balancing Authority Area Operations Portal

Acronym	Definition
BARC	Balancing Authority Requirements Calculator
BCR	Bid Cost Recovery
BPM	Business Process Manual
BRS	Business Requirement Specifications
BSAP	Base Schedule Aggregation Portal
BSC	Base Schedule Coordinator
BSSD	(WEIM) Base Schedule Submission Deadline
CAISO	California Independent System Operator
CB	Convergence Bidding
CC	Commitment Cost
CCDEBE	Commitment Costs and Default Energy Bid Enhancements
CDN	Conformed Dispatch Notice
CF	Confidence Factor
CIM	Common Information Model
CIP	Critical Infrastructure Protection
CIRA	Customer Interface for Resource Adequacy
CISO	California Independent System Operator
CLAP	Custom Load Aggregation Point
CMRI	Customer Market Results Interface
Cnode	Connectivity Node
COG	Constrained-Output Generator

Acronym	Definition
CPM	Capacity Procurement Mechanism
CRN	Contract Reference Number
CRR	Congestion Revenue Rights
CRRS	Congestion Revenue Rights Settlements (aka CRR Clawback system)
CSS	Critical Systems Support
DA	Day-Ahead
DAB	Default Availability Bid
DACA	Day-Ahead Contingency Analysis
DAECON	Day-Ahead Economic
DALPT	Day-Ahead Low Price Taker (low priority)
DAM	Day-Ahead Market
DAPT	Day-Ahead Price Taker (high priority)
DART	Day-Ahead Reliability Tool
DCPA	Dynamic Competitive Path Assessment
DCC	Default Commitment Cost
DEB	Default Energy Bid
DER	Distributed Energy Resource
DF	Demand Forecast
DGAP	Default Generation Aggregation Point
DLAP	Default Load Aggregation Point
DMLC	Default Minimum Load Cost

Acronym	Definition
DMM	Department of Market Monitoring
DOP	Dispatch Operating Point
DOT	Dispatch Operating Target
DR	Demand Response
DRP	Demand Response Program
DSA	Dynamic Stability Analysis
DSTC	Default State Transition Cost
DSUC	Default Start Up Cost
ECIC	Energy Costs and Index Calculator
ECON	Economic
ED	Exceptional Dispatch
EDAM	Extended Day-Ahead Market
EDR	Enterprise Data Repository
EE	Expected Energy
EEA	Expected Energy Allocation
EESC	Energy Imbalance Market Entity Scheduling Coordinator
EFC	Effective Flexible Capacity
EGAP	EIM Default Generation Aggregation Point
ELAP	EIM Load Aggregation Point
EMM	Enterprise Model Management
EMMS	Enterprise Model Management System

Acronym	Definition
EMNA	Energy Management Network Application
EMS	Energy Management System
EN	Energy
EPI	Electricity Price Index
ESP	Electronic Security Perimeter
ETC	Existing Transmission Contract
ETSR	Energy Transfer System Resources
FDR	Forecast Data Repository
FERC	Federal Energy Regulatory Commission
FMCA	Fifteen-Minute Contingency Analysis
FMM	Fifteen-Minute Market
FMU	Frequently Mitigated Unit
FNM	Full Network Model
FODD	FERC Outgoing Data Depository
FSP	Forecast Service Provider
FRCT	Forbidden Region Crossing Time
FRD	Flexible Ramp Down
FRU	Flexible Ramp Up
GDF	Generation Distribution Factor
GHG	Greenhouse Gas
GIP	Generator Interconnection Procedure

Acronym	Definition
GMC	Grid Management Charge
GPI	Gas Price Index
GRDT	Generator Resource Data Template
GUI	Graphical User Interface
H	Hour
HASP	Hour-Ahead Scheduling Process
HAVGC	Heat Average Cost (for non-gas resources)
HR	Heat Rate
ICE	InterContinental Exchange
ICM	Infrastructure Contracts and Management
ID	Identifier
IFM	Integrated Forward Market
ISL	Intertie Scheduling Limit
ISO	California Independent System Operator
IOOC	Integrated Optimal Outage Coordination
IR	Imbalance Reserve
IRD	Imbalance Reserve Down
IRU	Imbalance Reserve Up
IT	Information Technology
ITC	Inter-Tie Constraint
ITPD	Information Technology Product Development

Acronym	Definition
ITS	Interchange Transaction Scheduler
ITSM	Information Technology Service Management
JOU	Joint Owned Unit
LACA	Look-Ahead Contingency Analysis
LAP	Load Aggregation Point
LDF	Load Distribution Factor
LEL	Lower Economic Limit
LFR	Lower Forbidden Region
LF	Load Forecast
LFZ	Load Forecast Zone
LMP	Locational Marginal Price
LMPM	Locational Market Power Mitigation
LOL	Lower Operating Limit
LPT	Low Price Taker (low priority)
LRA	*Local Regulatory Authority*
LRL	Lower Regulation Limit
LSE	Load Serving Entity
LTCA	Long-Term Contingency Analysis
MCI	Model and Contract Implementation
MD	Manual Dispatch
MDT	Minimum Down Time

Acronym	Definition
MDS	Maximum Daily Startups
MEC	Marginal Energy (Cost) Component
MES	Market Engineering Services
MF	Master File
MF2SOA	Master File to Service-Oriented Architecture
MGC	Marginal Gas Cost
MLAC	Minimum Load Average Cost
MLC	Minimum Load Cost
MLHAVGC	Minimum Load Heat Average Cost (for non-gas resources)
MLHR	Minimum Load Heat Rate
MMA	Major Maintenance Adder
MMAMLC	Major Maintenance Adder for Minimum Load Cost
MMASUC	Major Maintenance Adder for Start Up Cost
MMASTC	Major Maintenance Adder for MSG State Transition Cost
MMG	Manage Markets & Grid
MMR	Manage Market & Reliability
MOS	Manage Operations Support & Settlements
MPM	market Power Mitigation
MQS	Market Quality System
MRID	Master Resource Identifier
MRI-S	Market Results Interface – Settlements

Acronym	Definition
MSSA	Metered Sub System Agreement
MSG	Multi-Stage Generator
MSR	Mirror System Resource
MUT	Minimum Up Time
MV&A	Market Validation & Analysis
MVT	Market Validation Tool
N/A	Not Applicable
NA	Network Application
NDAB	Negotiated Default Availability Bid
NDEB	Negotiated Default Energy Bid
NGR	Non-Generating Resource
NM	Network Model
NPM	Nodal Price Model
NQC	Net Qualifying Capacity
NSI	Net Scheduled Interchange
OASIS	Open Access Same-time information System
OATI	Open Access Technology International
OATT	Open Access Transmission Tariff
OC	Opportunity Cost
OCC	Opportunity Cost Calculator
ODCP	On Demand Capacity Procurement

Acronym	Definition
OES	Operations Engineering Services
OMS	Outage Management System
OOM	Out Of Market
OTS	Operations Training Simulator
PAM	Program and Application Management
PBC	Power Balance Constraint
PC	Pre-Calculation
PCA	Price Correction Admin
PCT	Price Correction Tools
PDR	Proxy Demand Resource
PI	Plant Information
PL	Participating Load
Pmax	Maximum Generation Capacity
Pmin	Minimum Generation Capacity
PMO	Program Management Office
PNM	Public New Mexico
Pnode	Pricing Node
POC	Point Of Contact
PRSC	Participating Resource Scheduling Coordinator
PSH	Pump Storage Hydro
PSTD	Power Systems Technology Development

Acronym	Definition
PSTO	Power Systems Technology Operations
PT	Price Taker (high priority)
PTO	Participating Transmission Owner
PTP	Point to Point Transmission Service
QRB	Quality Review Board
RA	Resource Adequacy
RC	Reliability Coordinator (or Reliability Capacity up and down-depending on context)
RC-BSAP	Reliability Coordinator - Base Schedule Aggregation Portal
RCD	Reliability Capacity Down
RCSA	Reliability Coordinator Service Agreement
RCU	Reliability Capacity Up
RDOT	Ramping Dispatch Operating Target (a continuous piecewise linear curve connecting consecutive *DOT*s using their mid-interval points, from RTD, RTCD, or RTDD runs, as applicable)
RDRR	Reliability Demand Response Resource
RDT	Resource Data Template
REG	Regulation
REGD	Regulation Down
REGU	Regulation Up
REN	Reliability Energy
RES	Resource
RIG	Remote Intelligent Gateway
RIMS	Resource Interconnection Management System

Copyright 2023 California ISO

Acronym	Definition
RMR	Reliability Must Run
ROPR	Operating Reserve Ramp Rate
RR	Ramp Rate
RREG	Regulation Ramp Rate
RSE	Resource Sufficiency Evaluation
RSEE	Resource Sufficiency Evaluation Enhancements
RT	Real-Time
RTBS	Real-Time Base Scheduler
RTCA	Real-Time Contingency Analysis
RTCD	Real-Time Contingency Dispatch
RTD	Real-Time Dispatch
RTDD	Real-Time Disturbance Dispatch
RTECON	Real-Time Economic
RTLPT	Real-Time Low Price Taker (low priority)
RTPD	Real-Time Pre-Dispatch
RTPT	Real-Time Price Taker (high priority)
RTM	Real-Time Market
RTMO	Real-Time Market Operator
RTUC	Real-Time Unit Commitment
RUC	Residual Unit Commitment
SADS	System And Design Specifications

Acronym	Definition
SC	Scheduling Coordinator
SCID	Scheduling Coordinator Identifier
SCME	Scheduling Coordinator Meter Entity
SDGAP	Super Default Generation Aggregation Point
SE	State Estimator
SIBR	Scheduling Infrastructure and Business Rules
SME	Subject Matter Expert
SOA	Service-Oriented Architecture
SP	Scheduling Point
SQMD	Settlements Quality Meter Data
SR	System Resource
SRS	System Requirement Specifications
SS	Self-Schedule
STC	State Transition Cost
STF	Short-Term Forecast
STC	State Transition Cost
STT	State Transition Time
STUC	Short-Term Unit Commitment
SUC	Start Up Cost
SUE	Start Up Energy
SUF	Start Up Fuel

Acronym	Definition
SURT	Start Up Ramp Time
SUT	Start Up Time
T	Time/Trading Hour
TBD	To Be Determined
TD	Trade Day/Date
TEE	Total Expected Energy
TEP	Tucson Electric Power
TG	Tie Generator
TH	Trading Hub
TNA	Transmission Network Application
TOP	Transmission Operator Provider
TOPA	Transmission Operator Provider Area
TOR	Transmission Ownership Rights
TR	Transmission Registry
TSR	Transfer System Resource
TTEE	Total Target Expected Energy (based on RDOT)
UAT	User Acceptance Testing
UEL	Upper Economic Limit
UFE	Unaccounted for Energy
UFR	Upper Forbidden Region
UI	User Interface

Acronym	Definition
UIE	Uninstructed Energy Imbalance
UL	User Limited
UOL	Upper Operating Limit
URL	Upper Regulation Limit
VER	Variable Energy Resource
VOM	Variable Operations & Maintenance
VOMC	Variable Operations & Maintenance Cost
WebOMS	Web-based Outage Management System
WEIM	Western Energy Imbalance Market
XML	Extensible Markup Language
XSD	XML Schema Definition
ZIL	Zero Impedance Line

Appendix A1

This section is intentionally left blank.

Appendix A2

This section is intentionally left blank.

Appendix A3

This section is intentionally left blank.

Appendix A4

This section is intentionally left blank.

Appendix A5

This section is intentionally left blank.

Appendix A6

This section is intentionally left blank.

Appendix A7: Transmission right (ETC/TOR/OATT) sales examples

TRANSMISSION RIGHT OWNER (TRO) registered 100MW CRN is CRN_TRO_000 with TSR ids CRN_TRO_TSR_SOURCE_000 and CRN_TRO_TSR_SINK_000 (and the other transfer at Node). At 7am TRO sells 20MW to Buyer1. TRO will coordinate with EDAM_ENTITY so that EDAM_ENTITY submits the following CRN definition in SIBR, preferably by 9am:

CRN_TRO_001

Entitlement: 20 MW

Resource Ids: BUYER1_IMPORT_SR_SOURCE and BUYER1_EXPORT_SR_EDAM_ENTITY under the Buyer1 SC (these should be registered in MF)

TSR Ids: CRN_TRO_TSR_SOURCE_001 and CRN_TRO_TSR_SINK_001 (and the other transfer at Node) under the Buyer1 SC

Buyer1 submits 20MW self-schedule at the source/sink resources and the TSRs by 10am.

At 8:30am, TRO sells 50MW to Buyer2. TRO will coordinate with EDAM_ENTITY (the EDAM Entity) so that EDAM_ENTITY submits the following CRN definition in SIBR, preferably by 9am:

CRN_TRO_002

Entitlement: 50 MW

Resource Ids: BUYER2_IMPORT_SR_SOURCE and BUYER2_EXPORT_SR_EDAM_ENTITY under the Buyer2 SC (these should be registered in MF)

TSR Ids: CRN_TRO_TSR_SOURCE_002 and CRN_TRO_TSR_SINK_002 (and the other transfer at Tesla) under the Buyer2 SC

Buyer2 submits 50MW self-schedule at the source/sink resources and the TSRs by 10am.

At 8:55am (no more sales after 9am), TRO releases 10MW of CRN_TRO_000 to EDAM to receive transfer revenue (pathway 2). The remaining unused 20MW rights may be released by EDAM_ENTITY under the EDAM_ENTITY TSRs by 10am (pathway 3), or left unused for RTM.

Actor	TRANSMISSION RIGHT OWNER (TRO) TRO SC	EDAM_ENTITY(EDAMENT) EDAMENT SC	Buyer1 Buyer1 SC	Buyer2 Buyer2 SC
MF register resource	100MW CRN: CRN_TRO_000 TRO SC TSR ids: CRN_TRO_TSR_SOURCE_000 CRN_TRO_TSR_SINK_000	EDAMENT SC TSR id: EDAMENT_TSR_SOURCE_001 EDAMENT _TSR_SINK_001	Buyer1 SC Import/export resource ids: BUYER1_IMPORT_SR_SOURCE BUYER1_EXPORT_SR_EDAM_E DAMENT	Buyer2 SC Import/export resource ids: BUYER2_IMPORT_SR_SOURCE BUYER2_EXPORT_SR_EDAM_EDAMEN Tassoicate
Sale 1 at 7 am	Sale 20 MW CRN: CRN_TRO_001	Submit in SIBR by 9 am: CRN_TRO_001 for 20 MW CRN Dynamic create TSR ids and associate CRN_TRO_001 with following under buyer1: CRN_TRO_TSR_SOURCE_001 CRN_TRO_TSR_SINK_001 BUYER1_IMPORT_SR_SOURCE BUYER1_EXPORT_SR_EDAM_E DAMENT	Submit in SIBR by 10 am Self-schedule 20 MW for: CRN_TRO_TSR_SOURCE_001 CRN_TRO_TSR_SINK_001 BUYER1_IMPORT_SR_SOURCE BUYER1_EXPORT_SR_EDAM_E DAMENT	
Sale 2 at 8:30 am	Sale 50 MW CRN: CRN_TRO_002	Submit in SIBR by 9 am: CRN_TRO_002 for 50 MW CRN Dynamic create TSR ids and associate CRN_TRO_002 with following under buyer2: CRN_TRO_TSR_SOURCE_002 CRN_TRO_TSR_SINK_002 BUYER2_IMPORT_SR_SOURCE BUYER2_EXPORT_SR_EDAM_E DAMENT		Submit in SIBR by 10 am Self-schedule 50 MW for: CRN_TRO_TSR_SOURCE_002 CRN_TRO_TSR_SINK_002 BUYER2_IMPORT_SR_SOURCE BUYER2_EXPORT_SR_EDAM_EDAMEN T

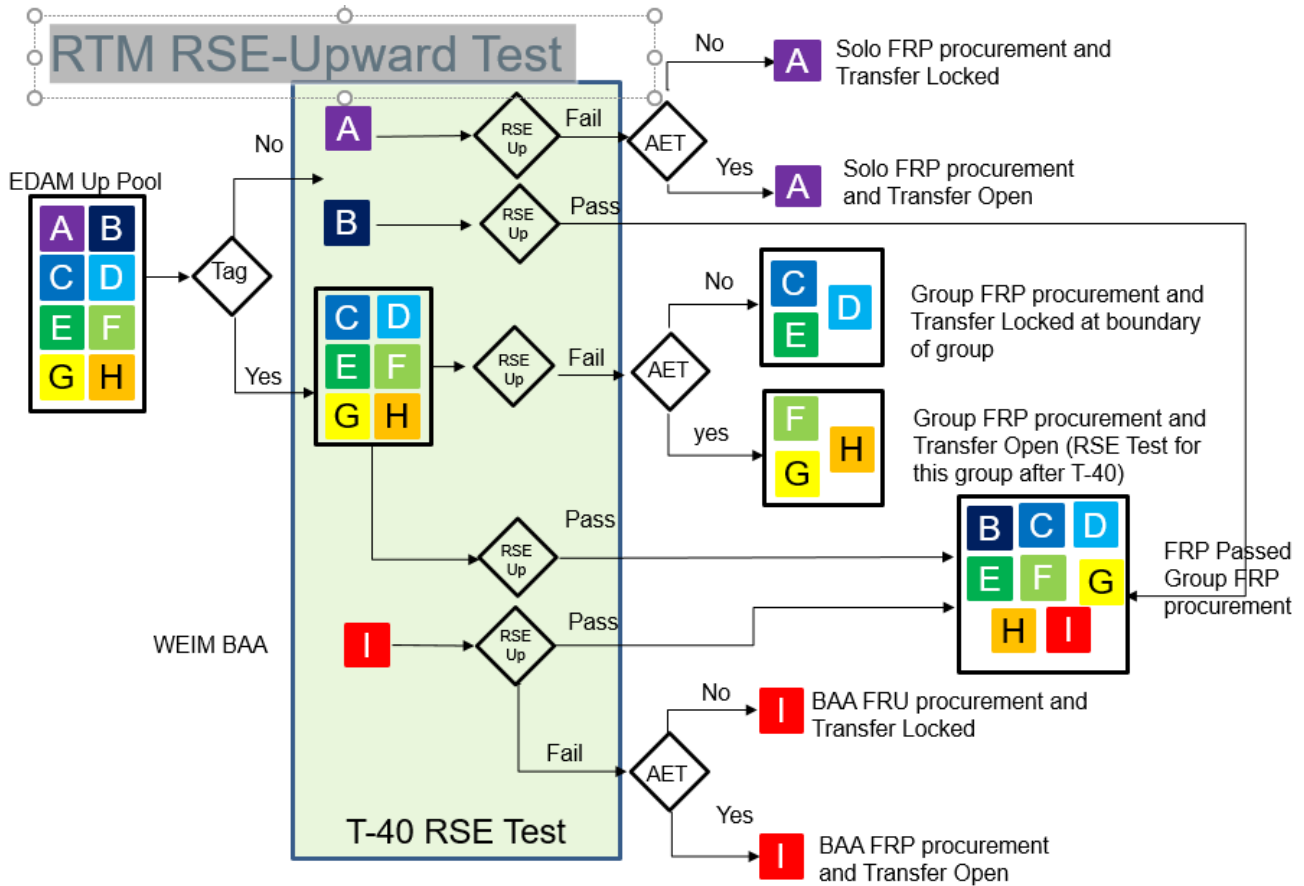|			
Pathway 2 release	Release 10 MW CRN to market by 9 am Submit TSR limits 10 MW in SIBR, deemed as pathway 2 CRN_TRO_TSR_SOURCE_000 CRN_TRO_TSR_SINK_000		
Pathway 3 release		Submit in SIBR by 10 am EDAMENT SC submit TSR limits up to 20 MW for market EDAMENT_TSR_SOURCE_001 EDAMENT _TSR_SINK_001	
Late-schedule		Submit Self-schedule for TRO SC up to 20 MW through RTSI after 10 am until to TH-75min CRN_TRO_TSR_SOURCE_000 CRN_TRO_TSR_SINK_000	

Appendix A8

This section is left intentionally blank

Appendix A9: Business Flow Diagrams

RTM RSE Downward Test