

# Business Requirements Specification

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## Real Time Settlements Review

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## Revision History

Date	Version	Description
1/13/2021	1.0	Creation of document

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# 1 Introduction

## 1.1 Purpose

This project provides insights into some of the real-time settlement metrics the ISO reviews and analyzes. It provides two changes to the ISO's settlement calculations. These changes are a result of both on-going monitoring and working with stakeholders to improve the overall settlement solutions. This initiative reviews the real time settlement charge codes that is associated with their interactions between the Balancing Authority Area (BAAs) in the Energy Imbalance Market (EIM) and it is useful to identify inappropriate cost shifting.

Scope of this policy initiative:

1. Settle the Base ETSR at the unique pricing location LMP.
2. ~~Clarify tariff language that involves a market rule change that will a~~ Allow an EIM entity not to settle Unaccounted for Energy (UFE) within its BAA for each EIM entity
3. Modify Bid Cost Recovery (BCR) Transfer adjustment amount to be based upon ETSR export over ETSR export plus measured demand.

## 1.2 References

Information related to this Real Time Settlements Reviewt can be found on the following CAISO web page at:

<http://www.caiso.com/InitiativeDocuments/DraftFinalProposal-Real-TimeSettlementReview.pdf>

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## 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 Guidelines

Intellectual Property ownership must be considered by all applicable stakeholders before the services are performed. The level of analysis is two-fold:

- One, the business owner must determine if the Intellectual Property necessary to perform the services is owned by the California ISO or whether it must be obtained from a third party. Once the California ISO has secured the proper Intellectual Property rights to perform the services (i.e., the Intellectual Property is owned by the California ISO or we have licensed it from a third party), the California ISO can undertake the next step.
- The second step in the analysis is to consider whether new Intellectual Property will be created as a result of the business requirements or service requirements to be performed, and how that Intellectual Property will be owned and protected by the California ISO.

In order to assist the business owner in the analysis previously described, refer to the California Intellectual Property Policy available at:

<http://www.caiso.com/rules/Pages/LegalPoliciesNotices/Default.aspx>, which provides a brief tutorial on what Intellectual Property is and how the California ISO can protect its Intellectual Property. Contact the Legal Department if you have any questions regarding Intellectual Property.

**There are no impacts to intellectual property based on the requirements stated in this document.**

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### 3 Details of Business Need/Problem

#### 3.1 Description

Business Opportunity/Problem Statement:	
<b>What:</b>	This project provides insights into some of the real-time settlement metrics the ISO reviews and analyzes. It provides two changes to the ISO's settlement calculations. These changes are a result of both on-going monitoring and working with stakeholders to improve the overall settlement solutions. This initiative reviews the real time settlement charge codes that is associated with their interactions between the Balancing Authority Area (BAAs) in the Energy Imbalance Market (EIM) and it is useful to identify inappropriate cost shifting.
<b>When:</b>	The Business requirements are implemented in two phases: <ol style="list-style-type: none"> <li>1. Phase 1 (Independent 2021)</li> <li>2. Phase 2 (Fall 2021)</li> </ol>
<b>Why do we have this opportunity/problem:</b>	There is a need for Settlement configurations and changes for BCR Transfer adjustments and settling the base ETSR at unique pricing location LMP.

### 4 Business Impacts

#### 4.1 Business Practice Manual (BPM)

BPM	Description of Impact(s)
Settlements & Billing	Yes



BPM	Description of Impact(s)
Market Instruments	No Impacts
Outage Management	No Impacts
Reliability Requirements	No Impacts
Market Operations	No Impacts
Congestion Revenue Rights	No Impacts
Credit Management and Market Clearing	No Impacts
Definitions & Acronyms	No Impacts
Demand Response	No Impacts
Direct Telemetry	No Impacts
Distributed Generation for Deliverability	No Impacts
Energy Imbalance Market (EIM)	No Impacts
Generator Interconnection and Deliverability Allocation Procedures	No Impacts
Generator Interconnection Procedure (GIP)	No Impacts
Generator Management	No Impacts
Managing Full Network Model	No Impacts
Metering	No Impacts
BPM Change Management	No Impacts
Reliability Coordinator Services	No Impacts
Candidate CRR Holder Registration	No Impacts
Rules of Conduct Administration	No Impacts
Scheduling Coordinator Certification and Termination	No Impacts
Compliance Monitoring	No Impacts
Transmission Planning Process	No Impacts

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## 4.2 Other

<b>Impact:</b>	<b>Description:</b>
<b>Market Simulation</b>	(Scope 2 and 3)- See Section 1.1 for Scope detail  Market simulation scenarios is needed for Bid Cost Recovery Transfer calculations. There is a need to uneconomically dispatch a resource within the BAA to serve External load.
<b>Market Participant Impact</b>	Shadow the Settlement configuration changes.
<b>External Training</b>	Yes  External Training is needed for EIM onboarding and normal training for BCR and UFE changes.
<b>Policy Initiative</b>	<a href="http://www.caiso.com/InitiativeDocuments/DraftFinalProposal-Real-TimeSettlementReview.pdf">http://www.caiso.com/InitiativeDocuments/DraftFinalProposal-Real-TimeSettlementReview.pdf</a>
<b>Vendor</b>	No Impacts

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### 4.3 Acronyms

Acronym	Definition
UFE	Unaccounted for Energy
BCR	Bid Cost Recovery
BAA	Balancing Authority Area
ETSR	Energy Transfer System Resource
LMP	Locational Marginal Pricing

## 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.

The Business requirements are implemented in two phases:

3. Phase 1 (Independent 2021)
4. Phase 2 (Fall 2021)

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## 5.1 Business Process: Manage Market Billing and Settlements

### 5.1.1 Business Requirements

<b>ID#</b>	<b>Business Feature</b>	<b>Requirement Type</b>	<b>Potential Application(s) Impacted</b>	<b>Phase</b>
RSR-BRQ001	System shall consume the Settlements Unaccounted for Energy (UFE) flag from Master File.	Core Tariff Section 29.11 CAISO Settlements & Billing BPM	Settlements	Phase 2
RSR-BRQ002	Settlements shall calculate the Unaccounted for Energy (UFE) amount but settle as zero value if the Settlement UFE flag = 'N'	Core Tariff Section 29.11 CAISO Settlements & Billing BPM	Settlements	Phase 2
RSR-BRQ003	System shall consume the Base ETSR flag from Master File	Existing	Settlements	Phase 1
RSR-BRQ004	System shall settle the base ETSR based on the Settlement base ETSR flag	Existing	Settlements	Phase 1

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<b>ID#</b>	<b>Business Feature</b>	<b>Requirement Type</b>	<b>Potential Application(s) Impacted</b>	<b>Phase</b>
RSR-BRQ005	<p>System shall calculate the BCR transfer amount as a product of BCR cost and the ratio of net ETSR export per BAA over the sum of net ETSR export plus measured demand.</p> <p>Note: BCR components implemented in Spring 2021 and aligned with EIM Base Schedule Submission Deadline initiative. This requirement will take precedence over the BCR component change as described in the EIM Base Schedule Submission Deadline initiative.</p>	<p>Core</p> <p>Tariff Section 11</p> <p>CAISO Settlements &amp; Billing BPM</p>	Settlements	Phase 1
RSR-BRQ006	<p>System shall allocate the BCR transfer amount to BAA(s) with net ETSR imports in proration of BAA net import over total EIM area net import.</p>	Existing	Settlements	Phase 1

## 5.2 Business Process: Manage Entity & Resource Maintenance Updates (MMR LII)

### 5.2.1 Business Requirements

<b>ID#</b>	<b>Business Feature</b>	<b>Requirement Type</b>	<b>Potential Application(s) Impacted</b>	<b>Phase</b>
RSR-BRQ007	<p>System must have the ability to maintain the Settlement of election choice of the EIM BAA(s) to settle Unaccounted for Energy (UFE).</p>	<p>Core</p> <p>Tariff Section 29.11</p>	Master File	Phase 2

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<b>ID#</b>	<b>Business Feature</b>	<b>Requirement Type</b>	<b>Potential Application(s) Impacted</b>	<b>Phase</b>
RSR-BRQ008	System must maintain the Transmission loss percentage for all EIM BAAs.  Note: Transmission loss factors shall default to zero if the BAA provides UFE election = 'N'	Core Tariff Section 29.11	Master File	Phase 2
RSR-BRQ009	A new process is needed for the EIM entities to notify the ISO of the annual UFE election and relevant transmission loss percentage and notify Master File of the election and implemented in the system.	Business Process Tariff Section 29.11	N/A	Phase 2
RSR-BRQ010	System needs to create and maintain base Energy Transfer System Resources at each transfer location between two non-ISO EIM BAA(s) locations.	Core Tariff Section 29.11	Master File	Phase 1
RSR-BRQ011	System shall set the Settlement elective flag for all base Energy Transfer System Resource to 'Y'  Note: This BRQ is part of the project: EIM Enhancements 2020	Existing	Master File	Phase 1

## 5.3 Business Process: Manage Real Time Market

### 5.3.1 Business Requirements

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<b>ID#</b>	<b>Business Feature</b>	<b>Requirement Type</b>	<b>Potential Application(s) Impacted</b>	<b>Phase</b>
RSR-BRQ012	System shall receive the transmission loss percentage from Master File.  Note: This is currently maintained in a static table within the market application. This requirement moves the maintenance of this data set to Master File.	Core Tariff Section 29.11	RTM	Phase 2
RSR-BRQ013	System shall allow EIM entities to submit base schedules on BASE ETSRs and reject base schedules submitted on Dynamic or Static ETSRs	Core	BSAP	Phase 1

## 5.4 Business Process: Business Process: Market/Business Simulation

### 5.3.1 Business Requirements

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.

In the Reason for Potential Scenario column, the Business Analyst must 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.

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2. **Interface changes:** Changes that impact templates (e.g. the Resource Adequacy {RA} supply plan), user interface (UI), and application programming interface (API) (e.g. retrievals of new shadow settlement data).
3. **New application/report:** Changes that cause addition/modification of market software or reports, especially when market data input is required by the market participant.
4. **New system process:** Modification of data flow in systems, especially if the new process requires the market participant to demonstrate proficiency prior to production.
5. **New/Modified model data:** Addition or substantial modification of model data as a market solution provided by the ISO.
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.

#### 5.4.1 Business Requirements

ID#	Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario
RSR-MKT001	<p>Market must dispatch a resource at the Locational Marginal Pricing that is less than its bid and does not recover the cost lost at subsequent intervals.</p> <p>Note: Need to trigger Bid Cost Recovery in the BAA where the energy is being transferred to another BAA.</p>	RTM	Settlements	1. Rule Impact
RSR-MKT002	Settlements shall calculate but not settle the Unaccounted for Energy for BAA that has selected the UFE Settlement Flag = 'N'	Master File	Settlements	1. Rule Impact 4. New System Process