

# Business Requirements Specification

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## Energy Imbalance Market 2021 Enhancements Phase 1

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# 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 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).

- **Initial BRS:** The Initial BRS will provide sufficient information to determine the scope of the project and will provide the functional business requirements needed to make the Architecture Decision.
- **Final BRS:** Following the Architecture Decision, the remaining non-functional business requirements, such as data, performance, web services, and security can be added to complete the Final BRS.

### Background:

Energy Imbalance Market Enhancements projects collectively address important issues identified by EIM market participants through Customer Inquiry, Dispute and Information system (CIDI) requests to improve the visibility, functions and features in Energy Imbalance Market (EIM).

Different from previous years, there will be five entities (BANC, LADWP, NWMT, TID, and PNM) that will join EIM in 2021, and five entities (BPA, Avista, Tacoma, Tucson, and PSCo) in 2022. There are a number of EIM enhancement projects to address special requests for integrating these entities in EIM. Among them, enhancements for BANC2, LADWP, BPA, Avangrid, and PSCo, each have separate projects and Business requirements. In addition, a few policy initiatives through stakeholder process also form a few separate projects (FRP Refinement, RT settlement Review, Base Schedule submission deadline, Pseudo-ties of shared resource, and EIM Sub-entity SC role). Through these projects, ISO will provide significant new functions for the EIM market. Limited by the resources internally and externally, the ISO management determined to start with two EIM enhancement CIDI requests for Spring 2021, and an additional two CIDI requests combined with the delayed EIM 2020 items for Fall 2021 as the scope of EIM enhancement 2021. This BRS will focus exclusively on the Spring 2021 items. The additional identified crucial enhancements will be managed through change requests.

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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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## 2.2 Acronyms and Definitions Table

| Acronym | Definition                                 |
|---------|--|
| API     | Application Program Interface              |
| BAA     | Balancing Authority Area                   |
| BAAOP   | Balancing Authority Area Operations Portal |
| EIM     | Energy Imbalance Market                    |
| ETSR    | Energy Transfer System Resource            |
| ITC     | Intertie Transmission Constraint           |
| RTD     | Real-Time Dispatch                         |
| RTPD    | Real-Time Pre-Dispatch                     |
| SC      | Scheduling Coordinator                     |
| UI      | User-Interface                             |

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## 3 Details of Business Need/Problem

### 3.1 Description

| Business Opportunity/Problem Statement:          |   |
|--|---|
| <b>What:</b>                                     | <p><b><u>SPRING 2021 Scope</u></b></p> <p>Two CIDI requests are deemed to support NWMT EIM integration</p> <p><b>BAAOP:</b> ITC and ETSR data sharing among the related EIM Entities.</p> <p><b>Internal:</b> ITC/TCOR/PTST Limits report and sharing among the related EIM Entities.</p> |
| <b>When:</b>                                     | <p>Refer to Release Users Group (RUG) for updated implementation dates.</p>   |
| <b>Why do we have this opportunity/problem:</b>  | <p>EIM market participants through Customer Inquiry, and Dispute and Information system (CIDI) request to improve visibility, functions, and features in the Energy Imbalance Market (EIM).</p>   |
| <b>Who does this opportunity/problem impact:</b> | <p>Market Participants, Market Operations, Customer Service.</p>  |

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## 4 Business Impacts

### 4.1 Business Practice Manual (BPM)

| BPM   | Description of Impact(s)   |
|---|--|
| <b>Market Instruments</b>   | <b>Yes</b><br>Due to new reports in Internal System for ITC limits |
| <b>BPM Change Management</b>  | Not Impacted   |
| <b>Candidate CRR Holder Registration</b>                                  | Not Impacted   |
| <b>Compliance Monitoring</b>  | Not Impacted   |
| <b>Congestion Revenue Rights</b>  | Not Impacted   |
| <b>Credit Management and Market Clearing</b>                              | Not Impacted   |
| <b>Definitions and Acronyms</b>   | Not Impacted   |
| <b>Demand Response</b>  |  |
| <b>Direct Telemetry</b>   | Not Impacted   |
| <b>Distributed Generation for Deliverability</b>                          | Not Impacted   |
| <b>Energy Imbalance Market (EIM)</b>                                      | Not Impacted   |
| <b>Generator Interconnection and Deliverability Allocation Procedures</b> | Not Impacted   |
| <b>Generator Interconnection Procedures (GIP)</b>                         | Not Impacted   |
| <b>Generator Management</b>   | Not Impacted   |
| <b>Managing Full Network Model</b>  | Not Impacted   |
| <b>Market Operations</b>  | Not Impacted   |
| <b>Metering</b>   | Not Impacted   |
| <b>Outage Management</b>  | Not Impacted   |
| <b>Reliability Coordinator Services</b>                                   | Not Impacted   |
| <b>Reliability Requirements</b>   | Not Impacted   |

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| BPM   | Description of Impact(s) |
|---|--------------------------|
| <b>Rules of Conduct Administration</b>                      | Not Impacted             |
| <b>Scheduling Coordinator Certification and Termination</b> | Not Impacted             |
| <b>Settlements and Billing</b>                              | Not Impacted             |
| <b>Transmission Planning Process</b>                        | Not Impacted             |

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## 4.2 Other

| Impact:                                    | Description: (optional)  |
|--|--|
| <b>Market Simulation</b>                   | <b>Yes</b>   |
| <b>Market Participant Impact</b>           | <b>Yes</b>   |
| <b>User Acceptance Testing (UAT)</b>       | <b>Yes</b>   |
| <b>Internal Training</b>                   | <b>Yes</b>   |
| <b>External Training</b>                   | <b>Yes</b>   |
| <b>Policy Initiative</b>                   | Not Applicable   |
| <b>Vendor</b>                              | <b>Yes</b>   |
| <b>Architectural Framework and Roadmap</b> | Design will follow existing architectural framework and will align with the roadmap. |

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## 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 Energy Imbalance Markets - Data Sharing

#### 5.1.1 Business Requirements BAAOP Enhancements

| ID#          | Business Feature  | Requirement Type | Potential Application(s) Impacted |
|--------------|---|------------------|-----------------------------------|
| EIM21-BRQ110 | <p><b>Allow the EIM Entity and RTMO to view associated ITC and associated ETSR in designated UI in BAAOP.</b></p> <ul style="list-style-type: none"> <li>• Receive association ITC with EIM entities.</li> <li>• Receive association ETSR with ITC.</li> <li>• Allow the associated EIM entities with the ITC to view the ITC and all the ETSRs in a new designated UI.</li> <li>• Allow EIM entities to view new UI, no edit function is available in this designated UI.</li> <li>• The new UI shall have other standard UI functions: filter, export, and print.</li> <li>• The EIM entity shall be limited to only view the associated ITC defined in the MF and associated ETSR in this designated UI.</li> <li>• The Real Time Market Operator (RTMO) shall have the view of all EIM ITCs and associated ETSR.</li> </ul> | Core<br>Phase 1  | BAAOP                             |

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| ID#          | Business Feature  | Requirement Type | Potential Application(s) Impacted |
|--------------|---|------------------|-----------------------------------|
| EIM21-BRQ112 | <p><b>In the designated new UIs (one for RTD and one for RTPD), build display for ITC and sub-table for associated resources schedule in RTPD and RTD market horizon.</b></p> <ul style="list-style-type: none"> <li>• Add two new display UIs for ITC detail display in BAAOP, one for RTPD and one for RTD: a table of hourly limits of all internal BAA ITCs and shared ITCs which should include the ITC name, import limit, and export limit.</li> <li>1. Each ITC should display the schedule for resources ETSR that are associated in the highlighted ITC.</li> <li>• Include a total schedule for each interval</li> </ul> <p>Note: ITC limit will be the market calculated limit, the ITC detail will be displayed in two different screens (one for RTD and one for RTPD).</p> | Core<br>Phase 1  | BAAOP, RTD, RTPD                  |



| ID#          | Business Feature   | Requirement Type | Potential Application(s) Impacted |
|--------------|--|------------------|-----------------------------------|
| EIM21-BRQ114 | <p><b>The designated new UIs shall display the latest results</b></p> <ul style="list-style-type: none"> <li>If the primary EIM entity modifies the ITC limits or ETSR in other UIs or submission, the change shall be reflected in the new designated UI.</li> <li>The designated UIs displays the limits that each application is actually using (snapshot of when it started the run): after considering latest submission, derate and override for ITC limits</li> </ul> <p>Note: ITC limit will be the market calculated limit.</p> | Core Phase 1     | BAAOP, RTD, RTPD                  |
| EIM21-BRQ116 | <p><b>Ensure no change on access for existing UIs</b></p> <ul style="list-style-type: none"> <li>All existing displays UI shall NOT be impacted, only allows primary EIM entity SC to access their own resources and transmission constraints.</li> <li>System shall not allow other EIM entity to view the primary SC's ITC and ETSR in other EIM entity specified UI. Other EIM entities only access associated ITCs and ETSR through the designated new UI.</li> </ul>  | Core Phase 1     | BAAOP, RTD, RTPD                  |
| EIM21-BRQ118 | <p><b>Publish ITC limit:</b></p> <p>Market shall publish the ITC limits used in the RTPD and RTD for all the EIM entity ITCs, include the ITC that have association with 1, 2, or more BAAs.</p>   | Core Phase 1     | BAAOP, RTD, RTPD                  |

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### 5.1.2 Business Requirements Internal System report

| ID#          | Business Feature   | Requirement Type | Potential Application(s) Impacted |
|--------------|--|------------------|-----------------------------------|
| EIM21-BRQ120 | <p><b>Create ITC limit reports UI and API</b></p> <ul style="list-style-type: none"> <li>• Receive association ITC with EIM entities from Internal System.</li> <li>• Receive the ITC limits from market for RTD and RTPD.</li> <li>• Create report for ITC limit and ITC schedule for binding intervals used in the each Market for the EIM entities: ITC name, start time, end time, market ID, import limit, export limit</li> <li>• Build Display UI and API for RTPD and RTD.</li> <li>• Allow the EIM entity to view the associated ITC limits reports in UI.</li> <li>• Allow the EIM entities to get the associated ITC limits through API.</li> <li>• The EIM ITC limit report shall be on the same publish timeline as the regular market results reports for RTPD and RTD.</li> </ul> | Core Phase 1     | Internal System                   |