

# Business Requirements Specification

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## OSI Enhancements 2021

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### Revision History

Date	Version	Description
6/1/2021	1.0	Creation of Document
6/2/2021	1.1	Removed "Target" notation and language. Added requirement BRQ200.

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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 (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).

- 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:

Operation System Improvements Enhancements 2021 focuses on delivering timely systems improvements that support day-to-day needs of Operations (OE), Operations Engineering Services (OES), and Market Services (MSE). The project aims to primarily improve market robustness, performance, and the technology foundation for system grid reliability by updating functionality and interfaces to reduce workarounds, automating manual processes and addressing minor defects or functionality enhancements identified by business units.

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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:

1. 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.
2. 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
ADS	Automated Dispatch System
AS	Ancillary Services
BA	Balancing Authority
BAAOP	Balancing Authority Area Operations Portal
CIRA	CAISO ISO Resource Adequacy Application
CPM	Capacity Procurement Mechanism
DOT	Dispatch Operating Target
DR	Demand Response
DRP	Demand Response Provider
ED	Exceptional Dispatch
EFC	Effective Flexible Capacity
ETSR	Energy Transfer System Resource
FRP	Flexible Ramping Product
FRU	Flexible Ramping Up
NR	Non-Spinning Reserves
NQC	Net Qualifying Capacity
PTO	Participating Transmission Owner
RD	Regulation Down
RTM	Real-Time Market
RU	Regulation Up
SC	Scheduling Coordinator
SR	Spinning Reserves
TAC	Transmission Access Charge
UI	User Interface
UOM	Unit of Measure

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## 3 Details of Business Need/Problem

### 3.1 Description

Business Opportunity/Problem Statement:	
<b>What:</b>	The project aims to primarily improve market robustness, performance, and the technology foundation for system grid reliability by updating functionality and interfaces to reduce workarounds, automating manual processes and addressing minor defects or functionality enhancements identified in by the business units.
<b>When:</b>	Refer to Release User Group (RUG) announcements for implementation dates.
<b>Why do we have this opportunity/problem:</b>	Delivering timely systems improvements that support day-to-day needs of Operations (OE), Operations Engineering Services (OES), and Market Services (MSE) groups.
<b>Who does this opportunity/problem impact:</b>	Market Participants

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## 4 Business Impacts

### 4.1 Business Practice Manuals (BPM)

BPM	Description of Impact(s)
BPM Change Management	Not Impacted
Candidate CRR Holder Registration	Not Impacted
Compliance Monitoring	Not Impacted
Congestion Revenue Rights	Not Impacted
Credit Management and Market Clearing	Not Impacted
Definitions & Acronyms	Not Impacted
Demand Response	Not Impacted
Direct Telemetry	Not Impacted
Distributed Generation for Deliverability	Not Impacted
Energy Imbalance Market (EIM)	Not Impacted
Generator Interconnection and Deliverability Allocation Procedures	Not Impacted
Generator Interconnection Procedure (GIP)	Not Impacted
Generator Management	Not Impacted
Managing Full Network Model	Not Impacted
Market Instruments	Not Impacted
Market Operations	Not Impacted
Metering	Not Impacted
Outage Management	Not Impacted
Reliability Coordinator Services	Not Impacted
Reliability Requirements	Not Impacted
Rules of Conduct Administration	Not Impacted
Scheduling Coordinator Certification and Termination	Not Impacted
Settlements and Billing	Potential Settlements and Billing changes required due to BRQ233, BRQ235, and BRQ236.
Transmission Planning Process	Not Impacted

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## 4.2 Other

Impact	Description (optional)
Market Simulation	Refer to specific requirements in section five for specific information.
Market Participant Impact	Refer to specific requirements in section five for specific information.
User Acceptance Testing (UAT)	Refer to specific requirements in section five for specific information.
External Training	Refer to specific requirements in section five for specific information.
Policy Initiative	Not Applicable
Architectural Framework and Roadmap	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.

**Note:** The following requirements in section five were assessed for several potential impacts including the following: 1. External UI/API, 2. Tariff, 3. BPM, 4. User Acceptance Testing, 5. External Training, 6. Customer Outreach, and 7. Market Simulation. Any criteria not listed within the requirements refer to non-impacted criteria whereas listed criteria refer to impacted criteria. Potential impacts subject to change.

**Note:** Refer to Release User Group (RUG) announcements for implementation dates.

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## 5.1 General: Requirements for OSI Enhancements 2021

### 5.1.1 Business Requirements: Automated Dispatch System (ADS)

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
OSI21 – BRQ004	<p>System must have advanced filter and additional color scheme in New ADS Instructions Table.</p> <p><b>Impacted:</b> External UI, User Acceptance Testing, External Training, Customer Outreach, Unstructured Market Simulation</p>	Core	ADS
OSI21 – BRQ005	<p>System must have the capability for advanced filtering to filter Ancillary Services (AS) when they are zero like FRU and FRD.</p> <p><b>Impacted:</b> External UI, User Acceptance Testing, External Training, Customer Outreach, Unstructured Market Simulation</p>	Core	ADS
OSI21 – BRQ006	<p>New ADS must have:</p> <ul style="list-style-type: none"> <li>• DOT: cyan (no change needed, already cyan)</li> <li>• SR, NR, RU, RD, FRU, FRD: gray</li> <li>• Startup: green (match RTM green)</li> <li>• Shutdown: orange (match RTM orange)</li> <li>• Transition: yellow (match RTM yellow)</li> <li>• Gridline coloring/line thickness of Instruction &amp; Dispatch Tables.</li> </ul> <p><b>Impacted:</b> External UI, User Acceptance Testing, External Training, Customer Outreach, Unstructured Market Simulation</p>	Core	ADS

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### 5.1.2 Business Requirements: CAISO.com

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
OSI21 – BRQ273	<p>The Curtailed and Non Operational Gen report should be enhanced to include data for BANC, TIDC, LADWP and IID BAs. The summarization will also need to be modified to be per BA.</p> <p><b>Impacted:</b> External UI/API, User Acceptance Testing, External Training, Customer Outreach</p>	Core	CAISO.com
OSI21 – BRQ274	<p>System must have a second report which provides an after the fact snapshot in time the next day, for the prior day's Curtailment and Non-Operational Generation.</p> <p><b>Impacted:</b> External UI/API, User Acceptance Testing, External Training, Customer Outreach</p>	Core	CAISO.com

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### 5.1.3 Business Requirements: California ISO Interface for Resource Adequacy Application (CIRA)

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
OSI21 – BRQ010	System shall publish bilateral trades from CIRA to OASIS on a monthly basis automatically based on a configurable parameter in CIRA.  <b>Impacted:</b> External UI/API, User Acceptance Testing, External Training, Customer Outreach	Core	CIRA  Integration
OSI21 – BRQ016	System shall publish EFC data from CIRA to OASIS on a monthly basis automatically based on a configurable parameter in CIRA.  <b>Impacted:</b> External UI/API, Integration, User Acceptance Testing, External Training, Customer Outreach	Core	CIRA  Integration
OSI21 – BRQ021	System must have the capability to display and download EFC data.  <b>Impacted:</b> External UI/API, User Acceptance Testing, External Training, Customer Outreach	Core	CIRA  Integration

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#### 5.1.4 Business Requirements: Demand Response Registry System (DRRS)

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
OSI21 – BRQ085	<p>System must create an automated notification to notify the DRP and SC when the Registration IDs linked to their DRPID and SCID will be end dated in DRRS and request that actions be taken less than 'x' business days. The notification should also state that any terminated Resource IDs without an Active Registration that has been notified will be end dated in Master File. By automating the notification process, DRPs and SCs can be notified as soon as any one of their registrations will soon be end dated.</p> <p><b>Impacted:</b> Customer Outreach, Unstructured Market Simulation</p>	Core	DRRS

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### 5.1.5 Business Requirements: Market Results Interface – Settlements (MRI-S)

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
OSI21 – BRQ115	<p>System shall provide a UI to display the current and historical TAC Rates Worksheet.</p> <p>The summary table shall list each Transmission Owner and include the following fields:</p> <ul style="list-style-type: none"> <li>• Filed Annual TRR (\$)</li> <li>• Filed Annual Gross Load (MWh)</li> <li>• HV Utility Specific Rate (\$/MWh)</li> <li>• TAC Rate (\$/MWh)</li> <li>• TAC Amount (\$)</li> </ul> <p>A separate data set shall list each PTO and their High Voltage and Low Voltage Components.</p> <ul style="list-style-type: none"> <li>• Base TRR</li> <li>• TRBAA</li> <li>• Standby Credit</li> <li>• Total</li> <li>• Gross Load</li> <li>• Utility Specific Access Charges (\$/MWh)</li> <li>• TRR Effective Date</li> <li>• TRR Docket#</li> <li>• TRBAA Effective Date</li> <li>• TRBAA Docket #</li> </ul> <p><b>Impacted:</b> External UI, User Acceptance Testing, External Training, Customer Outreach, Unstructured Market, Simulation</p>	Core	MRI-S
OSI21 – BRQ117	<p>System shall provide authorized users the ability to Submit, Cancel, Update, and Validate a TAC Rate Adjustment Request Submission.</p> <p><b>Impacted:</b> External UI, User Acceptance Testing, External Training, Customer Outreach, Unstructured Market, Simulation</p>	Core	MRI-S

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
OSI21 – BRQ118	Submission of a TAC Rate Adjustment Request shall use a template and support submission of data: <ol style="list-style-type: none"> <li>1. Directly into the application or,</li> <li>2. File upload through the application.</li> </ol> <p><b>Impacted:</b> External UI, User Acceptance Testing, External Training, Customer Outreach, Unstructured Market, Simulation</p>	Core	MRI-S
OSI21 – BRQ121	<p><u>TAC Rate Adjustment Calculation</u>            Authorized users shall have the ability to submit the following fields required for the Tac Rate Adjustment Calculation:</p> <ul style="list-style-type: none"> <li>• High(Required)/Low(Optional) Voltage               <ul style="list-style-type: none"> <li>○ Base TRR</li> <li>○ TRBAA</li> <li>○ Standby Credit</li> <li>○ Gross Load</li> </ul> </li> </ul> <p>Additionally, the user shall provide the following information with each rate adjustment:</p> <ul style="list-style-type: none"> <li>• *PTO</li> <li>• *TRR Effective Date</li> <li>• *TRR Docket #</li> <li>• *TRBAA Effective Date</li> <li>• *TRBAA Docket #</li> <li>• *-Required fields</li> </ul> <p><b>Impacted:</b> External UI, User Acceptance Testing, External Training, Customer Outreach, Unstructured Market, Simulation</p>	Core	MRI-S
OSI21 – BRQ128	<p><u>Contact List</u>            The System shall provide authorized user the ability to maintain contact information.</p> <p><b>Impacted:</b> External UI, User Acceptance Testing, External Training, Customer Outreach, Unstructured Market, Simulation</p>	Core	MRI-S

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
OSI21 – BRQ132	<p>System shall allow registered PTO entities access to the PTO Rate screens.</p> <p><b>Impacted:</b> External UI, User Acceptance Testing, External Training, Customer Outreach, Unstructured Market, Simulation</p>	Core	MRI-S
OSI21 – BRQ222	<p>System shall add the “Percent Residential” field to the submission of DR monitoring data.</p> <p>Note: This requirements is in relation to the Load Point Adjustment.</p> <p><b>Impacted:</b> External UI/API, External Training, Customer Outreach</p>	Core	MRI-S
OSI21 – BRQ233	<p>System shall provide a UI where individual external participants can view and download their specific DR Monitoring meter data. The meter data set shall include the following fields:</p> <ul style="list-style-type: none"> <li>• Trade Date</li> <li>• Interval End Time GMT</li> <li>• Interval End Time PPT</li> <li>• Interval Length (default to 60)</li> <li>• Interval ID</li> <li>• Resource ID</li> <li>• SCID</li> <li>• Measurement Type</li> <li>• Resource Type</li> <li>• Resource Type</li> <li>• UOM</li> <li>• Current Value</li> <li>• Batch ID</li> <li>• Percent Residential</li> </ul> <p><b>Impacted:</b> External UI/API, Settlements BPM, External Training, Customer Outreach</p>	Core	MRI-S



ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
OSI21 – BRQ235	<p>System shall provide API capability to retrieve DR monitoring data.</p> <p><b>Impacted:</b> External UI/API, Settlements BPM, External Training, Customer Outreach</p>	Core	MRI-S
OSI21 – BRQ236	<p>System shall limit the results displayed in the UI to 200,000 records.</p> <p><b>Impacted:</b> External UI/API, Settlements BPM, External Training, Customer Outreach</p>	Core	MRI-S

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### 5.1.7 Business Requirements: Open Access Same Time Information System (OASIS)

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
OSI21 – BRQ136	System must have the capability to receive, process, and display the EFC data for the entire year.  <b>Impacted:</b> External UI/API, User Acceptance Testing, External Training, Customer Outreach	Core	OASIS
OSI21 – BRQ139	System must have a new “Resource Adequacy” tab.  <b>Impacted:</b> External UI/API, User Acceptance Testing, External Training, Customer Outreach	Core	OASIS
OSI21 – BRQ140	System must have the following three existing reports 1. MQC Report, 2. CPM Designation, and 3. Resource Adequacy and Minimum Load, and the following two new reports: 1. Bilateral Trade Report, 2. EFC Report, moved to the new “Resource Adequacy” tab.  <b>Impacted:</b> External UI/API, User Acceptance Testing, External Training, Customer Outreach	Core	OASIS

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### 5.1.8 Business Requirements: Outage Management System (OMS)

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
OSI21 – BRQ197	<p>Change to Validations for error handling when child generators are linked to aggregate resource outages are defined with zero (0) Derate MW breakpoints.</p> <p>System must allow an Aggregate Child to be added in the Request for an outage with zero (0) Derate MWs and not reject the request.</p> <p>Note: If the user adds an Aggregate Child to the outage that does not contain positive Derate MWs, this should be allowed (currently there is a validation error). The updated processing will ignore the Child Aggregate and these breakpoints, and not save the Child Aggregate or breakpoints with the outage. When the outage is queried by the Participant, these breakpoints will not exist or be in the response payload.</p> <p><b>Impacted:</b> External UI, External API, External Training, Customer Outreach</p>	Core	OMS
OSI21 – BRQ200	<p>NGR Outage process efficiency. Allow overlapping outages on PMax (availability) while retaining restriction on Load Max, Max and Min Energy.</p> <p><b>Impacted:</b> User Interface, API Validation, Outage Management BPM, User Acceptance Testing, External Training, Customer Outreach, Unstructured Market Simulation</p>	Core	OMS

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
OSI21 – BRQ216	<p>System must allow an Aggregate Child to be added in the Request for an outage with non-zero Derate MWs for future breakpoints.</p> <p>Note: The intent would be to allow the child generator to be added if the all breakpoints in the past have Zero (0) Derate MWs. The Participant would still be required to enter the breakpoints for the Child Aggregate that span the duration of the outage. In this case the Child Aggregate would be added for the duration of the outage with future non-zero Derate MWs. If the processing of this request determines that the profile for a new Child Aggregate is being added with non-zero Derate MWs in the past, then the request will be rejected.</p> <p>Note: The validation for the processing will utilize the entry threshold for the determination as whether the non-zero Derate MW is being submitted for a past or future time point.</p> <p>The changes to be implemented would only be applied to Child Aggregate generators for an Aggregate resource.</p> <p><b>Impacted:</b> External UI, External API, External Training, Customer Outreach</p>	Core	OMS
OSI21 – BRQ221	<p>The system must support better filtering for the Switch Display View to allow users to find the switches more easily.</p> <p><b>Impacted:</b> User Acceptance Testing, External Training, Customer Outreach</p>	Core	OMS

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### 5.1.9 Business Requirements: Real-Time Market (RTM) – Balancing Authority Area Operations Portal (BAAOP)

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
OSI21 – BRQ159	ED Records shall be identified as Current or Non-Current within RTM.  <b>Impacted:</b> User Acceptance Testing, Customer Outreach	Core	BAAOP
OSI21 – BRQ175	System must have the ability to block/unblock ETSRs for a specified Time interval. Note: This involves application changes  <b>Impacted:</b> External UI/API, User Acceptance Testing, External Training, Customer Outreach, Unstructured Market Simulation	Core	BAAOP
OSI21 – BRQ176	System must have resource "SOC_YN" flag in the UI.  <b>Impacted:</b> User Acceptance Testing, External Training, Customer Outreach	Core	BAAOP
OSI21 – BRQ182	System must have modified Unit Details UI currently in Coming Soon.  <b>Impacted:</b> External UI/API, User Acceptance Testing, External Training, Customer Outreach	Core	BAAOP