

# Business Requirements Specification

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## Short-Long Start Definitions

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### Revision History

| Date      | Version | Description                  |
|-----------|---------|------------------------------|
| 6/21/2021 | 1.0     | Creation of Document         |
| 8/25/2021 | 1.1     | Addition of BRQ007 to BRQ018 |

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|---|-------------------|--------------------------|------------------|
|  <b>California ISO</b> | <b>Technology</b> | <b>Template Version:</b> | <b>5.1</b>       |
|   |                   | <b>Document Version:</b> | <b>1.1</b>       |
| <b>Short-Long Start Definitions Business Requirements Specification - Planning</b>                      |                   | <b>Date Created:</b>     | <b>6/16/2021</b> |

## Table of Contents

|          |   |           |
|----------|---|-----------|
| <b>1</b> | <b>Introduction</b> .....   | <b>3</b>  |
| 1.1      | Purpose .....   | 3         |
| <b>2</b> | <b>Intellectual Property Ownership</b> .....  | <b>4</b>  |
| 2.1      | Guidelines .....  | 4         |
| 2.2      | Acronyms and Definitions Table .....  | 5         |
| <b>3</b> | <b>Details of Business Need/Problem</b> .....   | <b>6</b>  |
| 3.1      | Description .....   | 6         |
| <b>4</b> | <b>Business Impacts</b> .....   | <b>7</b>  |
| 4.1      | Visual Aids .....   | 7         |
| 4.2      | Business Practice Manual (BPM) .....  | 8         |
| 4.3      | Other .....   | 10        |
| <b>5</b> | <b>Business Requirements</b> .....  | <b>11</b> |
| 5.1      | Business Process: Manage Day Ahead Market – Scheduling Infrastructure and Business Rules (SIBR) 11      |           |
| 5.1.1    | <i>Business Requirements</i> .....  | 11        |
| 5.2      | Business Process: Manage Day Ahead Market – Integrated Forward Market (IFM)   Real-Time Market (RTM) 12 |           |
| 5.2.1    | <i>Business Requirements</i> .....  | 12        |
| 5.3      | Business Process: Manage Market Billing and Settlements – Settlements .....                             | 14        |
| 5.3.1    | <i>Business Requirements</i> .....  | 14        |
| 5.4      | Business Process: Manage Market Quality System – Auxiliary Processes (AUX) .....                        | 16        |
| 5.4.1    | <i>Business Requirements</i> .....  | 16        |

|   |                   |                          |                  |
|---|-------------------|--------------------------|------------------|
|  <b>California ISO</b> | <b>Technology</b> | <b>Template Version:</b> | <b>5.1</b>       |
|   |                   | <b>Document Version:</b> | <b>1.1</b>       |
| <b>Short-Long Start Definitions Business Requirements Specification - Planning</b>                      |                   | <b>Date Created:</b>     | <b>6/16/2021</b> |

# 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:

The purpose of this initiative is to align market applications and business processes with revised tariff definitions of Short and Long Start resources. To simplify and streamline CAISO definitions regarding startup classifications, this project will update current ISO Tariff definitions and business practice manuals. With regards to how Short and Long Start resources are defined, the Medium Start definition will be removed and rolled into the Short Start definition. The term “start” references the amount of time a resource requires to move from an offline to an online status and reach its minimum load production. These simplifications should clarify operational and settlement communication, and outcomes for EIM and ISO market participants.

### Scope Overview:

1. Update current ISO Tariff definitions and business practice manuals.
2. The Medium Start definition will be removed and rolled into the Short Start definition.
3. Clarify operational and settlement communication and outcomes for EIM and ISO market participants.

|   |                   |                          |                  |
|---|-------------------|--------------------------|------------------|
|  <b>California ISO</b> | <b>Technology</b> | <b>Template Version:</b> | <b>5.1</b>       |
|   |                   | <b>Document Version:</b> | <b>1.1</b>       |
| <b>Short-Long Start Definitions Business Requirements Specification - Planning</b>                      |                   | <b>Date Created:</b>     | <b>6/16/2021</b> |

## 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.**

|   |                   |                          |                  |
|---|-------------------|--------------------------|------------------|
|  <b>California ISO</b> | <b>Technology</b> | <b>Template Version:</b> | <b>5.1</b>       |
|   |                   | <b>Document Version:</b> | <b>1.1</b>       |
| <b>Short-Long Start Definitions Business Requirements Specification - Planning</b>                      |                   | <b>Date Created:</b>     | <b>6/16/2021</b> |

## 2.2 Acronyms and Definitions Table


| Acronym | Definition          |
|---------|---------------------|
| AUX     | Auxiliary Processes |
| BCR     | Bid Cost Recovery   |
| DA      | Day Ahead           |
| RT      | Real-Time           |

|   |                   |                          |                  |
|---|-------------------|--------------------------|------------------|
|  <b>California ISO</b> | <b>Technology</b> | <b>Template Version:</b> | <b>5.1</b>       |
|   |                   | <b>Document Version:</b> | <b>1.1</b>       |
| <b>Short-Long Start Definitions Business Requirements Specification - Planning</b>                      |                   | <b>Date Created:</b>     | <b>6/16/2021</b> |

## 3 Details of Business Need/Problem

### 3.1 Description

| <b>Business Opportunity/Problem Statement:</b>   |   |
|--|---|
| <b>What:</b>                                     | The purpose of this initiative is to align market applications and business processes with the revised tariff definitions of Short Start, Long Start and removal of Medium Start. |
| <b>When:</b>                                     | Implementation planned in Fall 2021. Refer to Release Users Group (RUG) postings for specific dates.  |
| <b>Why do we have this opportunity/problem:</b>  | Continual alignment of tariff with FERC standards   |
| <b>Who does this opportunity/problem impact:</b> | This is an alignment issue between tariff definitions and system implementation in some systems. Market Participant impacts due to removal of Medium Start definition.            |

|   |                   |                          |                  |
|---|-------------------|--------------------------|------------------|
|  <b>California ISO</b> | <b>Technology</b> | <b>Template Version:</b> | <b>5.1</b>       |
|   |                   | <b>Document Version:</b> | <b>1.1</b>       |
| <b>Short-Long Start Definitions Business Requirements Specification - Planning</b>                      |                   | <b>Date Created:</b>     | <b>6/16/2021</b> |

## 4 Business Impacts

### 4.1 Visual Aids

#### Definitions Before Initiative:

| Attribute     | Short-Start                    | Medium-Start                   | Long-Start           | Extremely Long-Start  |
|---------------|--------------------------------|--------------------------------|----------------------|-----------------------|
| Start Up Time | Less than 2 hours              | Between 2 & 5 hours            | Between 5 & 18 hours | Greater than 18 hours |
| Cycle Time    | Less than or equal to 270 mins | Less than or equal to 270 mins | N/A - Not Defined    | N/A - Not Defined     |

#### Definitions After Initiative:


| Short-Start                    | Long-Start   | Extremely Long-Start                    |
|--------------------------------|--|---|
| Cycle Time Zero to 240 minutes | Cycle Time greater than 240 minutes and Start-Up Time less than or equal to 1080 minutes | Start-Up Time greater than 1080 minutes |

\*Cycle Time is startup time plus minimum run time from the MasterFile.

\*\*For resources that have registered as startup curve, the longest startup time shall be used to determined Cycle Time.

\*\*\*For MSG resources plant level data shall be used.


**Note:** A Short Start or Long Start unit can also be Fast Start for Non-Spin qualification purposes if its startup time is less than 10 minutes.

|   |                   |                          |                  |
|---|-------------------|--------------------------|------------------|
|  <b>California ISO</b> | <b>Technology</b> | <b>Template Version:</b> | <b>5.1</b>       |
|   |                   | <b>Document Version:</b> | <b>1.1</b>       |
| <b>Short-Long Start Definitions Business Requirements Specification - Planning</b>                      |                   | <b>Date Created:</b>     | <b>6/16/2021</b> |


## 4.2 Business Practice Manual (BPM)

| BPM  | Description of Impact(s)   |
|--|--|
| <b>Definitions &amp; Acronyms</b>                | <ul style="list-style-type: none"> <li>Update Short Start and Long Start definition</li> <li>Remove Medium Start definition</li> </ul>   |
| <b>Market Instruments</b>                        | <ul style="list-style-type: none"> <li>Remove Medium Start term from Sections 2.1.3, 2.2.3</li> <li>Remove Fast Start term from Section 2.1.3, 2.2.4, 3.3, 5.0</li> </ul>  |
| <b>Market Operations</b>                         | <ul style="list-style-type: none"> <li>Update Exhibit 6.2 to reflect removal of Medium Start</li> <li>Update Exhibit 6.2 Fast Start definition to less than or equal to 10 minutes (for offline Non-Spinning Reserve qualification)</li> <li>Update Exhibit 6.2 Short Start Cycle Time to Less than or equal to 240 minutes</li> <li>Update Exhibit 6.2 Long Start definition of Start Time to less than or equal to 18 hours and Long Start Cycle Time to greater than 240 minutes</li> </ul> |
| <b>Reliability Requirements</b>                  | <ul style="list-style-type: none"> <li>Remove Medium Start term from Sections 7.1.1, 7.1.2, 7.1.3, 7.4.3</li> </ul>  |
| <b>Settlements and Billing</b>                   | <ul style="list-style-type: none"> <li>Update BPM for Settlements and Billing.</li> </ul>  |
| <b>Compliance Monitoring</b>                     | Not Impacted   |
| <b>Congestion Revenue Rights</b>                 | Not Impacted   |
| <b>Credit Management and Market Clearing</b>     | Not Impacted   |
| <b>Definitions &amp; Acronyms</b>                | Not Impacted   |
| <b>Demand Response</b>                           | Not Impacted   |
| <b>Direct Telemetry</b>                          | Not Impacted   |
| <b>Distributed Generation for Deliverability</b> | Not Impacted   |
| <b>Energy Imbalance Market (EIM)</b>             | Not Impacted   |




|   |                   |                          |                  |
|---|-------------------|--------------------------|------------------|
|  <b>California ISO</b> | <b>Technology</b> | <b>Template Version:</b> | <b>5.1</b>       |
|   |                   | <b>Document Version:</b> | <b>1.1</b>       |
| <b>Short-Long Start Definitions Business Requirements Specification - Planning</b>                      |                   | <b>Date Created:</b>     | <b>6/16/2021</b> |

| <b>BPM</b>  | <b>Description of Impact(s)</b> |
|---|---------------------------------|
| <b>Generator Interconnection and Deliverability Allocation Procedures</b> | Not Impacted                    |
| <b>Generator Interconnection Procedure (GIP)</b>                          | Not Impacted                    |
| <b>Generator Management</b>   | Not Impacted                    |
| <b>Managing Full Network Model</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                    |
| <b>Rules of Conduct Administration</b>                                    | Not Impacted                    |
| <b>Scheduling Coordinator Certification and Termination</b>               | Not Impacted                    |
| <b>Transmission Planning Process</b>                                      | Not Impacted                    |

|   |                   |                          |                  |
|---|-------------------|--------------------------|------------------|
|  <b>California ISO</b> | <b>Technology</b> | <b>Template Version:</b> | <b>5.1</b>       |
|   |                   | <b>Document Version:</b> | <b>1.1</b>       |
| <b>Short-Long Start Definitions Business Requirements Specification - Planning</b>                      |                   | <b>Date Created:</b>     | <b>6/16/2021</b> |

### 4.3 Other

| Impact:                                    | Description: (optional)   |
|--|---|
| <b>Market Simulation</b>                   | No  |
| <b>Market Participant Impact</b>           | <b>Yes</b><br>Medium Start  |
| <b>User Acceptance Testing (UAT)</b>       | <b>Yes</b><br>Settlements, and System Operations to perform User Acceptance Testing.  |
| <b>Internal Training</b>                   | <b>Yes</b><br>Settlements   |
| <b>External Training</b>                   | <b>Yes</b><br>Training for external stakeholders                                      |
| <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. |

|   |                   |                          |                  |
|---|-------------------|--------------------------|------------------|
|  <b>California ISO</b> | <b>Technology</b> | <b>Template Version:</b> | <b>5.1</b>       |
|   |                   | <b>Document Version:</b> | <b>1.1</b>       |
| <b>Short-Long Start Definitions Business Requirements Specification - Planning</b>                      |                   | <b>Date Created:</b>     | <b>6/16/2021</b> |


## 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 Day Ahead Market – Scheduling Infrastructure and Business Rules (SIBR)

#### 5.1.1 Business Requirements


| ID#           | Business Feature  | Requirement Type   | Potential Application(s) Impacted |
|---------------|---|--|-----------------------------------|
| SLSD - BRQ001 | System must have the DA/RT unit commitment 240 minute Cycle Time for Short Start units (was previously 270 minutes).    | Core<br><br>Tariff:<br>11.8.1.1,<br>11.8.1.2,<br>30.5.2.7,<br>34.3.1,<br>34.3.2,<br>34.6 | SIBR                              |
| SLSD - BRQ016 | For non-MSG resources, system must use the longest start time registered in the MF (aka cold start).                    | Core   | SIBR                              |
| SLSD - BRQ017 | For MSG resources, system must use the longest start time registered for the plant (not configuration level) in the MF. | Core   | SIBR                              |
| SLSD - BRQ018 | For MSG resources, system must use the MUT registered for the plant (not configuration level) in the MF.                | Core   | SIBR                              |

|   |                   |                          |                  |
|---|-------------------|--------------------------|------------------|
|  <b>California ISO</b> | <b>Technology</b> | <b>Template Version:</b> | <b>5.1</b>       |
|   |                   | <b>Document Version:</b> | <b>1.1</b>       |
| <b>Short-Long Start Definitions Business Requirements Specification - Planning</b>                      |                   | <b>Date Created:</b>     | <b>6/16/2021</b> |


## 5.2 Business Process: Manage Day Ahead Market – Integrated Forward Market (IFM) | Real-Time Market (RTM)

### 5.2.1 Business Requirements

| ID#           | Business Feature  | Requirement Type   | Potential Application(s) Impacted |
|---------------|---|--|-----------------------------------|
| SLSD - BRQ002 | System shall have the DA binding commitment Cycle Time (startup time + minimum up time) greater than 240 minutes.<br><br>Note: No changes to Operator Displays. | Core<br><br>Tariff:<br>11.8.1.1,<br>11.8.1.2,<br>30.5.2.7,<br>34.3.1,<br>34.3.2,<br>34.6 | IFM                               |
| SLSD - BRQ003 | System shall have the Short Start committable Cycle Time (startup time + minimum up time) of 240 minutes or less.   | Core<br><br>Tariff:<br>11.8.1.1,<br>11.8.1.2,<br>30.5.2.7,<br>34.3.1,<br>34.3.2,<br>34.6 | RTM                               |

|   |                   |                          |                  |
|---|-------------------|--------------------------|------------------|
|  <b>California ISO</b> | <b>Technology</b> | <b>Template Version:</b> | <b>5.1</b>       |
|   |                   | <b>Document Version:</b> | <b>1.1</b>       |
| <b>Short-Long Start Definitions Business Requirements Specification - Planning</b>                      |                   | <b>Date Created:</b>     | <b>6/16/2021</b> |


| ID#           | Business Feature  | Requirement Type | Potential Application(s) Impacted |
|---------------|---|------------------|-----------------------------------|
| SLSD - BRQ007 | For non-MSG resources, system must use the longest start time registered in the MF (aka cold start).                    | Core             | IFM/RTM                           |
| SLSD - BRQ008 | For MSG resources, system must use the longest start time registered for the plant (not configuration level) in the MF. | Core             | IFM/RTM                           |
| SLSD - BRQ009 | For MSG resources, system must use the MUT registered for the plant (not configuration level) in the MF.                | Core             | IFM/RTM                           |

|   |                   |                          |                  |
|---|-------------------|--------------------------|------------------|
|  <b>California ISO</b> | <b>Technology</b> | <b>Template Version:</b> | <b>5.1</b>       |
|   |                   | <b>Document Version:</b> | <b>1.1</b>       |
| <b>Short-Long Start Definitions Business Requirements Specification - Planning</b>                      |                   | <b>Date Created:</b>     | <b>6/16/2021</b> |


## 5.3 Business Process: Manage Market Billing and Settlements – Settlements

### 5.3.1 Business Requirements

| ID#           | Business Feature  | Requirement Type  | Potential Application(s) Impacted |
|---------------|---|---|-----------------------------------|
| SLSD - BRQ004 | Settlement systems shall update the daily short start flag used for Bid Cost Recovery (BCR) to align with suggested Cycle Time for Short Start resources. | Core<br><br>BPM:<br>Settlements and Billing<br><br>Tariff:<br>11.8.1.1,<br>11.8.1.2             | Settlements                       |
| SLSD - BRQ005 | System must have the Long Start resources defined as having a Cycle Time greater than 240 minutes and a Start-Up Time less than or equal to 1080 minutes. | Core<br><br>BPM:<br>Settlements and Billing<br><br>Tariff:<br>40.6.2,<br>40.6.4.4,<br>40.10.6.1 | Settlements                       |
| SLSD - BRQ010 | For non-MSG resources, system must use the longest start time registered in the MF (aka cold start).  | Core<br><br>BPM:<br>Settlements and Billing   | Settlements                       |

|   |                   |                          |                  |
|---|-------------------|--------------------------|------------------|
|  <b>California ISO</b> | <b>Technology</b> | <b>Template Version:</b> | <b>5.1</b>       |
|   |                   | <b>Document Version:</b> | <b>1.1</b>       |
| <b>Short-Long Start Definitions Business Requirements Specification - Planning</b>                      |                   | <b>Date Created:</b>     | <b>6/16/2021</b> |

| ID#           | Business Feature  | Requirement Type                            | Potential Application(s) Impacted |
|---------------|---|---|-----------------------------------|
| SLSD - BRQ011 | For MSG resources, system must use the longest start time registered for the plant (not configuration level) in the MF. | Core<br><br>BPM:<br>Settlements and Billing | Settlements                       |
| SLSD - BRQ012 | For MSG resources, system must use the MUT registered for the plant (not configuration level) in the MF.                | Core<br><br>BPM:<br>Settlements and Billing | Settlements                       |

|   |                   |                          |                  |
|---|-------------------|--------------------------|------------------|
|  <b>California ISO</b> | <b>Technology</b> | <b>Template Version:</b> | <b>5.1</b>       |
|   |                   | <b>Document Version:</b> | <b>1.1</b>       |
| <b>Short-Long Start Definitions Business Requirements Specification - Planning</b>                      |                   | <b>Date Created:</b>     | <b>6/16/2021</b> |

## 5.4 Business Process: Manage Market Quality System – Auxiliary Processes (AUX)

### 5.4.1 Business Requirements

| ID#           | Business Feature   | Requirement Type  | Settlements |
|---------------|--|---|-------------|
| SLSD - BRQ006 | System must have the capability for Auxiliary Processes (AUX) to consider a resource to be eligible for Real-Time Commitment if the Cycle Time is 240 minutes or less. | Core<br><br>Tariff:<br>11.8.1.2,<br>34.3.1,<br>40.6.2,<br>40.10.6.1 | Settlements |
| SLSD - BRQ013 | For non-MSG resources, system must use (for Auxiliary Processes (AUX)) the longest start time registered in the MF (aka cold start).                                   | Core  | Settlements |
| SLSD - BRQ014 | For MSG resources, system must use (for Auxiliary Processes (AUX)) the longest start time registered for the plant (not configuration level) in the MF.                | Core  | Settlements |
| SLSD - BRQ015 | For MSG resources, system must use (for Auxiliary Processes (AUX)) the MUT registered for the plant (not configuration level) in the MF.                               | Core  | Settlements |