

Business Requirements Specification

Short-Long Start Definitions

Document Version: 1.2

Current Version Date: 4/15/2022

Revision History

Date	Version	Description
6/21/2021	1.0	Creation of Document
8/25/2021	1.1	Addition of BRQ007 to BRQ018
10/28/2021	1.2	Updates the to the following BRQs from 240 cycle time to 255 cycle time. SLSD - BRQ001 SLSD - BRQ002 SLSD - BRQ003 SLSD - BRQ005 SLSD - BRQ006



 California ISO	Technology	Template Version:	5.1
		Document Version:	1.2
Short-Long Start Definitions Business Requirements Specification - Planning		Date Created:	6/16/2021

Table of Contents

1	Introduction	3
1.1	Purpose	3
2	Intellectual Property Ownership	4
2.1	Guidelines	4
2.2	Acronyms and Definitions Table	5
3	Details of Business Need/Problem	6
3.1	Description.....	6
4	Business Impacts	7
4.1	Visual Aids	7
4.2	Business Practice Manual (BPM).....	8
4.3	Other.....	10
5	Business Requirements	11
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

 California ISO	Technology	Template Version:	5.1
		Document Version:	1.2
Short-Long Start Definitions Business Requirements Specification - Planning		Date Created:	6/16/2021

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.

 California ISO	Technology	Template Version:	5.1
		Document Version:	1.2
Short-Long Start Definitions Business Requirements Specification - Planning		Date Created:	6/16/2021

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.

 California ISO	Technology	Template Version:	5.1
		Document Version:	1.2
Short-Long Start Definitions Business Requirements Specification - Planning		Date Created:	6/16/2021

2.2 Acronyms and Definitions Table


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

 California ISO	Technology	Template Version:	5.1
		Document Version:	1.2
Short-Long Start Definitions Business Requirements Specification - Planning		Date Created:	6/16/2021

3 Details of Business Need/Problem

3.1 Description

Business Opportunity/Problem Statement:	
What:	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.
When:	Implementation planned as independent 2022. Refer to Release Users Group (RUG) postings for specific dates.
Why do we have this opportunity/problem:	Continual alignment of tariff with FERC standards
Who does this opportunity/problem impact:	This is an alignment issue between tariff definitions and system implementation in some systems. Market Participant impacts due to removal of Medium Start definition.

 California ISO	Technology	Template Version:	5.1
		Document Version:	1.2
Short-Long Start Definitions Business Requirements Specification - Planning		Date Created:	6/16/2021

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 255 minutes	Cycle Time greater than 255 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.


 California ISO	Technology	Template Version:	5.1
		Document Version:	1.2
Short-Long Start Definitions Business Requirements Specification - Planning		Date Created:	6/16/2021

4.2 Business Practice Manual (BPM)

BPM	Description of Impact(s)
Definitions & Acronyms	<ul style="list-style-type: none"> Update Short Start and Long Start definition Remove Medium Start definition
Market Instruments	<ul style="list-style-type: none"> Remove Medium Start term from Sections 2.1.3, 2.2.3 Remove Fast Start term from Section 2.1.3, 2.2.4, 3.3, 5.0
Market Operations	<ul style="list-style-type: none"> Update Exhibit 6.2 to reflect removal of Medium Start Update Exhibit 6.2 Fast Start definition to less than or equal to 10 minutes (for offline Non-Spinning Reserve qualification) Update Exhibit 6.2 Short Start Cycle Time to Less than or equal to 255 minutes 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 255 minutes
Reliability Requirements	<ul style="list-style-type: none"> Remove Medium Start term from Sections 7.1.1, 7.1.2, 7.1.3, 7.4.3
Settlements and Billing	<ul style="list-style-type: none"> Update BPM for Settlements and Billing.
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


 California ISO	Technology	Template Version:	5.1
		Document Version:	1.2
Short-Long Start Definitions Business Requirements Specification - Planning		Date Created:	6/16/2021

BPM	Description of Impact(s)
Generator Interconnection and Deliverability Allocation Procedures	Not Impacted
Generator Interconnection Procedure (GIP)	Not Impacted
Generator Management	Not Impacted
Managing Full Network Model	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
Transmission Planning Process	Not Impacted

 California ISO	Technology	Template Version:	5.1
		Document Version:	1.2
Short-Long Start Definitions Business Requirements Specification - Planning		Date Created:	6/16/2021

4.3 Other

Impact:	Description: (optional)
Market Simulation	No
Market Participant Impact	Yes Medium Start
User Acceptance Testing (UAT)	Yes Settlements, and System Operations to perform User Acceptance Testing.
Internal Training	Yes Settlements
External Training	Yes Training for external stakeholders
Policy Initiative	Not Applicable
Vendor	Yes
Architectural Framework and Roadmap	Design will follow existing architectural framework, and will align with the roadmap.

 California ISO	Technology	Template Version:	5.1
		Document Version:	1.2
Short-Long Start Definitions Business Requirements Specification - Planning		Date Created:	6/16/2021


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 255 minute Cycle Time for Short Start units (was previously 270 minutes).	Core Tariff: 11.8.1.1, 11.8.1.2, 30.5.2.7, 34.3.1, 34.3.2, 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

 California ISO	Technology	Template Version:	5.1
		Document Version:	1.2
Short-Long Start Definitions Business Requirements Specification - Planning		Date Created:	6/16/2021


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 255 minutes. Note: No changes to Operator Displays.	Core Tariff: 11.8.1.1, 11.8.1.2, 30.5.2.7, 34.3.1, 34.3.2, 34.6	IFM
SLSD - BRQ003	System shall have the Short Start committable Cycle Time (startup time + minimum up time) of 255 minutes or less.	Core Tariff: 11.8.1.1, 11.8.1.2, 30.5.2.7, 34.3.1, 34.3.2, 34.6	RTM

 California ISO	Technology	Template Version:	5.1
		Document Version:	1.2
Short-Long Start Definitions Business Requirements Specification - Planning		Date Created:	6/16/2021


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

 California ISO	Technology	Template Version:	5.1
		Document Version:	1.2
Short-Long Start Definitions Business Requirements Specification - Planning		Date Created:	6/16/2021


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 BPM: Settlements and Billing Tariff: 11.8.1.1, 11.8.1.2	Settlements
SLSD - BRQ005	System must have the Long Start resources defined as having a Cycle Time greater than 255 minutes and a Start-Up Time less than or equal to 1080 minutes.	Core BPM: Settlements and Billing Tariff: 40.6.2, 40.6.4.4, 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 BPM: Settlements and Billing	Settlements

 California ISO	Technology	Template Version:	5.1
		Document Version:	1.2
Short-Long Start Definitions Business Requirements Specification - Planning		Date Created:	6/16/2021

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 BPM: 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 BPM: Settlements and Billing	Settlements

 California ISO	Technology	Template Version:	5.1
		Document Version:	1.2
Short-Long Start Definitions Business Requirements Specification - Planning		Date Created:	6/16/2021

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 255 minutes or less.	Core Tariff: 11.8.1.2, 34.3.1, 40.6.2, 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