California ISO

Business Requirements Specification

Missing Monitoring and Meter Data Notice Automation

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Revision History

Date	Version	Description
1/23/2026	1.0	Initial Document Release.

Disclaimer and Understanding

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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).

1.2 Scope

Implementation of the following enhancements

Item	Description
1	MRI-S Meter Data update to provide MPs the ability to see which resources have outstanding meter data submission.
2	MRI-S Monitoring Data update to provide MPs the ability to see which resources have outstanding measurement type data.

1.3 Acronym and Terms Definitions

Refer to **Appendix-0 – Acronym Definition**

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 Checklist

All information in this document is the Intellectual Property (copyright, trademark, patent, and/or trade secret) of the California ISO.

3 Details of Business Need/Problem

3.1 Description

Business Opportunity/Problem Statement:	
What:	• CAISO intends to provide a solution to Market Participants that would allow them the functionality to view Monitoring Data that has been successfully submitted or missing, prior to the tariff defined submission deadline. This would allow the Market Participant to self-correct and timely submit Monitoring Data to the CAISO via MRI-S and avoid penalty. • Because Monitoring Data is very similar to Meter Data and shares the same tariff defined submission deadline, CAISO plans to leverage the solution proposed for missing meter data and subsequently implement the requirements needed for missing monitoring data.
Why do we have this opportunity/problem:	Current business practices call for manual notifications to be sent to market participants regarding metering and monitoring data. This approach is inefficient and non-sustainable.
Who does this opportunity/problem impact:	• Market Participants • Operation Readiness • Customer Readiness

4 Business Impacts

4.1 Business Practice Manual (BPM)

BPM	Description of Impact(s)
Metering	N/A **Note:** The MRI-S User Guide will be updated.

4.2 Other

Impact	Description (optional)
Market Simulation	No
Market Participant Impact	

External Participant Type	Impacted?	Notes
Demand Response Entity	No	This will be done via the SC
Financial Entity	No	
Forecast Service Provider (FSP)	No	
Government/Regulatory Agency	No	
Reliability Coordination (RC) Customer	No	
Scheduling Coordinator (SC)	**Yes**	
Transmission Owner (TO)	No	
WEIM Entity	No	This will be done via the SC
Adjacent BA	No	
Other	No	

Impact	Description (optional)
External Bid Publication	No
User Acceptance Testing (UAT)	Yes
Operational Procedures	No

Impact	Description (optional)
Customer Readiness Impact	
1. **External Communication Needed**	Yes
2. **External Onboarding and Maintenance**	No
• **External Training**	Yes
• **External Computer Based Training**	Yes Update the existing CBT regarding MRI-S.
Policy Initiative	No
FERC Ongoing Data Delivery (FODD) Impact	No

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: Metering -> Meter Data Acquisition & Processing

5.1.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
MMMDNA-BRQ-01040	**Display Missing Meter Data for Query by Resource's SC** System shall display the following data to external participants (SCs) and make it accessible and query-able by each resource's SC: • Missing Metering Data by: o Trade Date o SC ID o Resource ID o Interval **Notes** • The missing meter data are only applicable for SC metered entity resources who have their ISO Polled Flag set to 'N'.	Core	MRI-S
MMMDNA-BRQ-01060	**Furnish Capability to each SC to Query Missing Meter Data** System shall furnish the following use capability to each SC: • Ability to view the SC IDs that its certificate is provisioned to. • Selecting a single Trade Date from drop-down calendar. • Selecting SC ID(s) that are associated with the SC. • Viewing intervals and resources that have missing meter data, only if the TEE is non-zero and ISO Polled Flag is set to 'N' for the selected trade date and SC ID(s).	Core	MRI-S
MMMDNA-BRQ-01080	**Display Missing Monitoring Data for Query by Resource's SC** System shall display the following data to external participants (SCs) and make it accessible and query-able by each resource's SC: • Missing Monitoring Data by: o Trade Date	Core	MRI-S

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	o SC ID o DRP ID o Resource ID o Registration ID o Measurement Type o Interval		
MMMDNA-BRQ-01100	**Furnish Capability to each SC to Query Missing Monitoring Data** System shall furnish the following use capability to each SC: • Ability to view the SC IDs that its certificate is provisioned to. • Selecting single Trade Date from drop-down calendar. • Selecting SC ID(s) that are associated with the SC. • Viewing intervals and resources that have missing monitoring data only if the TEE is non-zero for the selected trade date and SC ID(s).	Core	MRI-S

5.2 Business Process: Register, Modify & Terminate PDR/RDRR Resource

5.2.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
MMMDNA-BRQ-02040	**Define and Maintain Mapping between Baseline Method and Measurement Type** ISO IT Owners (per request from ISO Business Owners) shall define and maintain the mapping between Baseline Method and Measurement Type. **Notes** • This data mapping shall match the data that are published in Demand Response BPM. • Refer to **Baseline Method to Measurement Type Mapping** (within **Appendix-A: Formulas, Calculation Details, and Examples**)	**Business Process**	DRRS

5.3 Business Process: <Market/Business Simulation>

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, Western Energy Imbalance Market (WEIM) implementations, and Reliability Coordination (RC) service implementations.

In the Reason for Potential Scenario column, 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.

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 or export 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 a WEIM 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.

5.3.1 Business Requirements

ID#	Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario	BRQ Traceability
None					

6 Appendices

6.1 Appendix-0 – Acronym Definition

Acronym	Definition
A2A	Application-to-Application
ACL	Access Control List
AIM	Access and Identity Management
API	Application Program Interface
B2B	Business-to-Business
BA	Business Analyst
BAA	Balancing Authority Area
BD	Business Day
BD	Bill Determinant
BPM	Business Process Manual
BRS	Business Requirement Specifications
CAISO	California Independent System Operator
CBT	Computer-Based Training
CIM	Common Information Model
CIP	Critical Infrastructure Protection
CISO	California Independent System Operator
CMRI	Customer Market Results Interface
CRR	Congestion Revenue Rights

Acronym	Definition
CSS	Critical Systems Support
DAM	Day-Ahead Market
DMM	Department of Market Monitoring
DR	Demand Response
DReAMS	Data Repository And Mapping for Settlements
DRP	Demand Response Provider
DRRS	Demand Response Registry System
EDAM	Extended Day-Ahead Market
EDAS	Energy Data Acquisition Specialists
EDR	Enterprise Data Repository
EDRP	Enterprise Data Repository Production
EMM	Enterprise Model Management
EMMS	Enterprise Model Management System
EOL	End Of Life
EPMO	Enterprise Program Management Office
ERM	Entity Resource Management
ESP	Electronic Security Perimeter
FDR	Forecast Data Repository
FERC	Federal Energy Regulatory Commission
FNM	Full Network Model
FODD	FERC Outgoing Data Depository

Acronym	Definition
GIP	Generator Interconnection Procedure
GMC	Grid Management Charge
GRDT	Generator Resource Data Template
GUI	Graphical User Interface
HPQC	Hewlett-Packard Quality Control
ICM	Infrastructure Contracts and Management
ID	Identifier
ISO	California Independent System Operator
IT	Information Technology
LSE	Load Serving Entity
MCI	Model and Contract Implementation
MF	Master File
MMG	Manage Markets & Grid
MMMDNA	Missing Monitoring and Meter Data Notice Automation
MMR	Manage Market & Reliability
MOS	Manage Operations Support & Settlements
MP	Market Participant
MQS	Market Quality System
MQSHISP	Market Quality System Historical Production
MRID	Master Resource IDentifier
MRI-S	Market Results Interface – Settlements

Acronym	Definition
MRTU	Market Redesign Technology Upgrade
MVT	Market Validation Tool
N/A	Not Applicable
NM	Network Model
OASIS	Open Access Same-time information System
OES	Operations Engineering Services
OTS	Operations Training Simulator
PAM	Program and Application Management
PDR	Proxy Demand Resource
PEDRIT	Penalty Enhancements: Demand Response, Investigation, Tolling
PMO	Program Management Office
POC	Point Of Contact
PSTD	Power Systems Technology Development
PSTO	Power Systems Technology Operations
QA	Quality Assurance
RC	Reliability Coordinator
RDT	Resource Data Template
RIG	Remote Intelligent Gateway
RIMS	Resource Interconnection Management System
ROC	Rules of Conduct
ROCE	Rules of Conduct Enhancements

Acronym	Definition
RTM	Real-Time Market
RUC	Residual Unit Commitment
RUG	Release User Group
SADS	System And Design Specifications
SAN	Service Account Number
SC	Scheduling Coordinator
SCID	Scheduling Coordinator IDentification
SCME	Scheduling Coordinator Meter Entity
SE	Software Engineering
SIBR	Scheduling Infrastructure and Business Rules
SME	Subject Matter Expert
SOA	Service-Oriented Architecture
SQMD	Settlements Quality Meter Data
SRS	System Requirement Specifications
STF	Short-Term Forecast
TBD	To Be Determined
TD	Trade Date
TEE	Total Expected Energy
T+44B	Trade Date Plus 44 Business Days
UAT	User Acceptance Testing
UI	User Interface

Acronym	Definition
WEIM	Western Energy Imbalance Market
WREGIS	Western Renewable Energy Generation Information System
XML	Extensible Markup Language
XSD	XML Schema Definition

6.2 Appendix-A: Formulas, Calculation Details, and Examples

6.2.1 Baseline Method to Measurement Type Mapping

Reference

- MMMDNA-BRQ-02040

- The below Table is copied from Appendix B of the Demand Response BPM as of 9/23/2025.

Measurement Type	Data Granularity	Baseline Method	DRRS Baseline Method ID (Code)	Notes
CBL	Hourly	- Control Group - Day Matching 5/10 (Residential Only) - Day Matching 10/10 - Day Matching Combined - Weather Matching - Meter Generation Output with Customer Load Baseline - PDR-LSR (CUR) with Customer Load Baseline - EVSE-Residential with Customer Load Baseline - EVSE-Non-Residential with Customer Load Baseline	207 208 209 210 211 311, 312, 313, 314 301, 302, 303, 304 401, 402, 403, 404 412, 413, 414	- Data submission is due no later than T+52 BD. - Underlying load data used in the customer load baseline calculation for all baseline methods. 45 days of historical data prior to the day of the event is required.
TMNT	Hourly	- Control Group - Meter Generation Output - Meter Generation Output with Customer Load Baseline - PDR-LSR (CUR and CON) - PDR-LSR (CUR) with Customer Load Baseline	207 205 311, 312, 313, 314 300 301, 302, 303, 304 400 401, 402, 403, 404 410 412, 413, 414	- Data submission is due no later than T+52 BD. - Submit for trade date where TEE > 0. 45 days of historic data prior to the day

Measurement Type	Data Granularity	Baseline Method	DRRS Baseline Method ID (Code)	Notes
		• EVSE-Residential • EVSE-Residential with Customer Load Baseline**Error! Bookmark not defined.** • EVSE-Non-Residential • EVSE-Non-Residential with Customer Load Baseline**Error! Bookmark not defined.**		of the event is required.
BASE	Hourly	• Control Group • Day Matching 5/10 (Residential Only) • Day Matching 10/10 • Day Matching Combined • Weather Matching • Meter Generation Output with Customer Load Baseline • PDR-LSR (CUR) with Customer Load Baseline • EVSE-Residential with Customer Load Baseline**Error! Bookmark not defined.** • EVSE-Non-Residential with Customer Load Baseline	• 207 • 208 • 209 • 210 • 211 • 311, 312, 313, 314 • 301, 302, 303, 304 • 401, 402, 403, 404 • 412, 413, 414	• Data submission is due no later than T+52 BD. • Calculated customer load baseline (CLB) values used to derive DREM. • BASE data is submitted for trade dates when the resource/registration is being actively bid into the market for the hours in which it is bid.