

Market Participant Asset Implementation Process Guide

Version 3.2

Revision History

VERSION NO.	EFFECTIVE DATE	REVISED BY	DESCRIPTION
1	3/20/2018	Marissa Arechavaleta	Initial Draft
2	7/10/2019	Marissa Arechavaleta	Project creation 84 day requirement; updates to section 5, 6, & 7.
3	9/12/2019	Marissa Arechavaleta	Revision of project creation timeline to - 203 day requirement, updates to section 5, 6, 7.
3.1	12/3/2019	Marissa Arechavaleta	Removal of PeakRC
3.2	6/8/2020	Marissa Arechavaleta	Updates to the Bundle and Bucket Timeframe and FNM schedule

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1 ACRONYMS

Refer to this table for acronyms used throughout this document.

ACRONYM	ACRONYM EXPANSION
BAA	Balancing Authority Area
Custom LAP	Custom Load Aggregation Point
DB	Database
DERP	Distributed Energy Resource Provider
DSA	Dynamic Scheduling Agreement
EIM	Energy Imbalance Market
EMS	Energy Management System
FERC	Federal Energy Regulatory Commission
FNM	Full Network Model
ISO	Independent System Operator
LSE	Load Serving Entity
MPAI	Market Participant Asset Implementation
MSS	Metered Substation
MSSA	Metered Subsystems Aggregate Agreement
NS-PGA	Net Scheduled Participating Generator Agreement
PGA	Participating Generator Agreement
PLA	Participating Load Agreement
PPGA	Pseudo-Tie Participating Generator Agreement
PTO	Participating Transmission Owner
RIMS	Resource Interconnection Management System
SCME	Scheduling Coordinator Metered Entity
TO	Transmission Owner
UAA	User Access Administrator
UDC	Utility Distribution Company

2 MPAI PROCESS OVERVIEW

The Market Participant Asset Implementation (MPAI) Process Guide is intended to provide a high level understanding of participating in the ISO Full Network Model process from a design and implementation standpoint.

The MPAI process uses a deliverable management approach to facilitate the incorporation of potential and existing Participating Generators, or potential and Participating Transmission Owner assets, into CAISO systems and processes in a timely manner. This process works to ensure ISO departments have the necessary information to meet CAISO requirements in compliance with applicable standards and tariff language.

3 SCOPE

This document describes the processes used to coordinate the timing of required deliverables to support the implementation of transmission, generation and load assets in the ISO Balancing Authority Area (BAA) or Energy Imbalance Market (EIM).

The MPAI process is split into Transmission and New Resource Implementation sections. Within the process, assets will be modeled by creating a project with the ISO.

Each project has a process defined for it based on its unique characteristics which dictates the responsibilities and deliverables required to complete the implementation of the Market Participant asset(s). The following sections explain which entities are involved in transmission, generation, and load projects that participate in the ISO market and/or have an impact to the ISO control grid operations.

3.1 Transmission Projects

- Existing PTO
 - Asset additions, modifications and removals that affect the ISO controlled grid
 - Project information provided by Existing Participating Transmission Owners
- New PTO
 - Asset additions that affect the CAISO controlled grid (i.e. Competitive Solicitation)
 - Project information provided by new Participating Transmission Owners

3.2 Generation Projects

- New generation resources internal to CAISO BAA under PGA, NS-PGA or MSSA
 - Project information provided by resource owner and responsible PTO, UDC or MSS

- Conversion of Exempt generation to participating resources under PGA or NS-PGA
 - Project information provided by resource owner and responsible PTO or UDC
- New or existing resources set up to participate in the ISO BAA under PPGA or DSA
 - Project information provided by project owner and host BAA

3.3 Load Projects

- New or existing pumping facilities internal to CAISO BAA under PLA
 - Project information provided by facility owner and responsible PTO, UDC, or MSS.
- New loads within CAISO BAA to reflect loads for UDC or MSS entities.
- New loads for Participating Generator resource station service where a LSE is not established.

4 RESOURCE INTERCONNECTION MANAGEMENT SYSTEM (RIMS) GUIDELINES

4.1 Access

Potential or existing participating generator owners and participating transmission owners will be required to have user access to RIMS. The process to gain user access to RIMS is as follows:

1. Establish a User Access Administrator (UAA) with the ISO Customer Service Department. If you are unsure whether a UAA has already been established with the CAISO for your entity, please contact the ISO Client Relations Department at UAARRequests@caiso.com.
If a UAA is not already established you may create one following the steps below.
 - a. Go to www.CAISO.com and navigate to “Application Access” by selecting “PARTICIPATE” in the selection menu at the top of the webpage. Select the “User access administrator guide”.
 - b. Complete Steps 1 and 2 of the User Access Administrator Guide, “Designate a UAA” and “Complete the non-disclosure agreement”.
2. Once your UAA has been established, complete steps 3-5 using the User Access Administrator Guide.
 - a. Request application access
 - b. Conform with information security standards
 - c. Install and renew digital certificates

3. When a new request is successfully submitted through RIMS to create a Generation project code, the UAA will need to provision users who will need to access the specific project code. Similarly, Transmission module users will need to be provisioned by the UAA to access Transmission project codes.

4.2 RIMS Users and Project Creation

4.2.1 Potential and existing Participating Generator

Each Participating Generator must designate one or more User Access Administrators to manage the process of provisioning user access to ISO project codes.

To create a new project code, participants will upload and submit a new project details form using RIMS public site, located at:

<http://www.caiso.com/participate/Pages/NewResourceImplementation/Default.aspx>. The project details form will run through a series of validations, once the project validation is successful a project code will be assigned and emailed to the participant who submitted the request. The participant will need to contact their entity's UAA to have the new project code provisioned to access the project. Once the user is provisioned for the project they may update information and upload documentation to that project code.

4.2.2 Potential and Participating Transmission Owners

Each Participating Transmission Owner must designate one or more User Access Administrators to manage the process of provisioning user access to ISO project codes.

To create a new project code, transmission owners will upload and submit the bulk loader spreadsheet using RIMS site. The spreadsheet will run through a series of validations. Once the spreadsheet has been processed, a digest email notification will be sent to the participant who submitted the loader. Any new project codes created will be included in the digest email to the participant who submitted the request. The participant will need to contact their entity's UAA to have the new project code provisioned to access the project. Once the user is provisioned for the project they may update information and upload documentation to that project code.

5 PROJECT CREATION CRITERIA

5.1 Project Creation

All NRI and Transmission projects must be submitted by potential and existing Participating Generators, or potential and Participating Transmission Owners into the FNM process prior to the Customer Model Document submission deadline for the requested FNM Database build production deployment date. All projects are given a projected Full Network Model label designation based on the implementation date (the estimated implement date for NRI or the earliest date for transmission). This Full Network Model label is the version of the Full Network Model that the project is projected to be included in. The deployment date of each Full Network

Model version is posted on the ISO website at:

<http://www.caiso.com/market/Pages/NetworkandResourceModeling/Default.aspx>.

5.2 NRI and Transmission Projects

Participating Generator's and Transmission Owners may access their associated implementation guides for more information with regards to specifications of project creation instructions. Links to these guides are provided below. They may also be found on the ISO website under the [Network and Resource Modeling](#) tab.

5.2.1 Generation projects

Generation projects must adhere to the Customer Model Document Submission deadline requirement. More information can be found within section 3 of the New Resource Implementation Guide.

5.2.1.1 Project Type Creation

The following project types **are** included in RIMS and projects should be created by uploading the project details form through the RIMS public webpage.

- Solar
- Wind/Wind Repower
- Wind QF
- Existing QF
- Conventional
- Dynamic
- Pseudo
- Non-Generation
- Load
- Custom LAP
- Meter Maintenance
- Meter Replacement
- RIG Reconfiguration

The following project types **are not** included in RIMS and projects should be created by submitting the project details form via email to NRI@caiso.com

- DERP Aggregation
- Existing Resources converting to SC Metered Entity (SCME)
- New/Existing EIM generator resources

Definitions of these project types can be found within Section 2 of the New Resource Implementation Guide.

5.2.2 Transmission project

Transmission project assets must adhere to the Customer Model Document Submission Deadline requirement. More information can be found within section 6 of the Transmission Implementation Guide on what assets the ISO needs to be informed of and model in the FNM. The following transmission assets are broken down into equipment types that are modeled.

- Substation
- Transformer
- Transmission Lines
- Shunt Cap(s)
- Reactor(s)
- Condenser
- Breaker(s)
- Disconnect(s)
- Shoofly install/removal
- Special Protection Scheme
- Load
- Direct Transfer Trip

5.2.2.1 Project Type Creation

All transmission assets that the ISO is required to model must be submitted through RIMS except EIM at this time. When onboarding a new EIM, the transmission model is submitted through the PMO office as part of the onboarding tracks. Subsequent EIM transmission models along with new EIM generation projects are sent to EMS directly.

6 RIMS FNM TIMELINE AND DELIVERABLES

Changes must be submitted in advance of the target date of the model change. The following items within the schedule are important to plan and abide by.

1. FNM Label: Model Build identifying label for each production release.
2. Customer Model Document Submission Deadline: All completed model documents must be submitted to be considered in the scope of the corresponding FNM model build by this date.
3. ISO Published Final Scope: The ISO completes final approved scope after considering submissions for completeness, timeliness and available ISO bandwidth to build the model.
4. Final Scope/Work Summary published on the ISO website.
5. Production Deployment: The week that the ISO is targeting to push implementation into Production.

The CAISO has posted the dates of when new [Full Network Model](#) production models will be released.

7 BUNDLE AND BUCKETS

7.1 Deliverables

Depending on the type of project, all new and existing resources, PTO's, and TO's must submit required Bucket or Bundle deliverable items per project in order to properly design and implement the asset into the ISO FNM.

The Bucket or Bundle dates are derived from the implementation date submitted when a project enters the process. For transmission equipment, new generation interconnections or changes

to existing generation data submissions are due prior to the Customer Model Document Submission deadline.

Descriptions of specific deliverables for each type of asset can be found in the associated implementation guide.

[New Resource Implementation Guide](#) - Beginning in section 5

[Transmission Implementation Guide](#) - Beginning in section 7

7.2 Uploading Required Filenames

All files uploaded to RIMS should be clearly labeled and properly formatted. Please refer to either the New Resource Implementation Guide or the Transmission Implementation Guide for specific labeling and formatting requirements.

The Participating Generator and Participating Transmission Owners have the responsibility to submit documents using the correct file naming convention.

The correctly formatted file attachment(s) will be processed and passed to each ISO business unit for the review and acceptance for purposes of modeling, training, and ultimately implementing the asset.

7.3 Acceptance criteria for each document

The goal for each ISO business unit is to review the documents submitted by the Participating Generator and Participating Transmission Owners within ten (10) business days.

Business units will change the document status in RIMS to “Accepted” once all criteria have been met.

If the document cannot be fully accepted, then the business unit must change the status to Not Accepted or Conditionally Accepted (if this option is available). The business unit reviewing the particular document will enter detailed notes within the project file for the Participating Generator and/or Participating Transmission Owners to notify the contacts to resolve issues found in documents submitted.

If the document has a status of Not Accepted, RIMS will automatically delete the file from the system in preparation for the receipt of an updated document.

7.3.1 Document status

- **Accepted:** Document meets business unit requirement, the document is set to Accepted and will be used for modeling purposes.
- **Not Accepted:** Document has not met business unit requirements satisfactory, set the document to Not Accepted and comments will be entered by the business unit to guide the participant on what needs to be fixed and/or resolved in the document in order for it to meet the business unit requirements.

- **Conditional:** Document meets basic modeling requirements, but it doesn't meet metering requirements. Business unit will set the document's status to Conditionally Accepted and provide a comment for the participant on how to fix the document. The Conditional criteria is only available where indicated.

7.4 Bucket/Bundle Email Notifications

7.4.1 Bucket – Generation Project

Participating Generators will receive Bucket notifications 14 days in advance of the Bucket acceptance date. Bucket date timelines are dates derived from the implementation date designated in RIMS. A Bucket date could have multiple required files/documents the Participating Generator submits to the ISO for review and acceptance. Each Bucket date is the date by which the file must be accepted, not the file submission date deadline. The Participating Generator should also give adequate time to submit deliverables, at least 14 days in advance, so that the ISO is able to review and comment if resubmission of a document occurs and plan.

Depending on the type of project, Bucket notifications will be sent to inform that project specific documents are due within 14 days from the Bucket acceptance date and are either not accepted or have not been received. These notification may include but are not limited to the following:

- Bucket 1
- Bucket 2
- Bucket 3
- Before Sync

If all required Bucket items are already in an accepted status prior to the 14 days, this notification will not be sent.

7.4.2 Bundle – Transmission Project

Participating Transmission Owners will receive Bundle notifications 21 days in advance of the Bundle acceptance date. Bundle date timelines are dates derived from the earliest date of a transmission asset or a group of transmission assets designated in RIMS. A Bundle date could have multiple required files/documents the Participating Transmission Owners submits to the ISO for review and acceptance. Each Bundle Date is the date by which the file must be accepted, not the file submission date deadline. The PTO should also give adequate time PTO submit deliverables, at least 14 days in advance, so that the ISO is able PTO review and comment if resubmission of a document occurs and plan.

Depending on the type of equipment the Bundle notifications inform that the specific equipment type documents are due within 21 days from the earliest date and are either not accepted or have not been received. These notification may include but are not limited to the following:

- Bundle 1
- Bundle 1 Load
- Bundle 2
- Bundle 3 SPS/RAS
- Transmission Assets or Equipment Types about to Energize
- Bundle 4 Load

If all required Bundle items are already in an accepted status prior to the 14 days, this notification will not be sent.

8 WEEKLY PLANNING AND SCOPE

8.1 Description of weekly scoping process flow

Based on a Bucket 1 / Bundle 1 criteria, each project will be assigned an FNM database model (DB Model) when the minimum modeling information has been accepted by each business unit involved in the project.

The DB Model designation in the FNM process is based on the implementation date the Interconnection Customer (IC) or PTO has provided in RIMS (e.g. 20M9). All projects must come through RIMS and the MPAI process in order to be added to the final approved FNM signed scope.

Each week, projects meeting the minimum qualifications will be assigned an FNM model in RIMS.

8.2 Database Numbering

The FNM numbering of each project will have the year and quarter (*for example 20M9*) which is called DBModel. The DBModel assignment will not be applied to a project until the minimum qualifications have been met.

All RIMS projects, for either transmission or generator resources, are given a projected FNM model build based on the implementation date called a DBLabel. This DBLabel includes the year, quarter, and work week (*i.e. 20M9.01*) the projected FNM build is scheduled for based on what week the project owner will implement the asset.

There are a minimum number of documents that must be received and accepted by the ISO in order to assign a FNM DBModel number. Please note this may not encompass all of the documents required for the specific project and you may need to submit additional Bucket/Bundle items through RIMS.

8.2.1 Accepted minimum documentation qualifications to assign FNM DBModel - Generator:

- Single line drawing
- Interconnection Agreement
- Three line drawing
- Communication block diagram
- RIG Details form

8.2.2 Accepted minimum documentation qualifications to assign FNM DBModel - Transmission:

- Single line drawing
- Positive Sequence Load Flow or Engineer Programming Control Logic
- ICCP
- Phase Sequence

9 APPENDIX A

9.1 New Resource Implementation Supporting Tools

Questions regarding this guide or the process may be directed to NRI@caiso.com.

NRI External Webpage:

<http://www.caiso.com/participate/Pages/NewResourceImplementation/Default.aspx>

Metering and Telemetry Webpage:

<http://www.caiso.com/participate/Pages/MeteringTelemetry/Default.aspx>

9.2 Transmission Asset Implementation Supporting Tools

Questions regarding this guide or the process may be directed to MPAI@caiso.com.

Transmission Implementation Guide:

<http://www.caiso.com/market/Pages/NetworkandResourceModeling/Default.aspx>