 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021




California ISO

EIM Track 6 Overview - Training and Operations Readiness

Document Owner: **Carder, Heidi**

Document Updated: 7/6/2021

 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021

REVISION HISTORY

VERSION NO.	DATE	REVISED BY	DESCRIPTION
1.0	7/6/2017	Nancy Strouse	Updated per Joanne Alai's instructions.
1.1	8/02/2018	Craig Williams; Nancy Strouse	Added a section for the Train-the-Trainer session and made minor corrections.
1.2	4/26/2019	Heidi Carder	Updated to align with changes identified through lessons learned and evolution of the EIM training program.
1.3	5/21/2019	Ayman Fattah	Removed references to EIM Portal.
2.0	12/18/2019	Heidi Carder; Rashele Wiltzius; Nancy Strouse	Updated to reflect train-the-trainer training module. Added Train-the-Trainer Orientation and Designated Trainer Identification deliverables. Removed EIM Entity Training Plan (EIM Entity) deliverable. Updated format of in-person training courses. Added acronym expansions; updated copyright update; provided minor formatting, clarifications, and grammatical corrections.
3.0	9/25/2020	Rashele Wiltzius	Removed section 3.2 Operations Management Overview Visits. Updated to reflect removal of training at EIM entity location. Removed section 3.4 In-Person training. Updated to reflect EIM train-the-trainer will happen virtually. Updated date of EIM train-the-trainer from T-9 to T-12. Added EIM Entity staff training to deliverable date. Updated timeline image with corrected dates.
3.1	06/28/2021	Rodney Jackson	Corrected grammatical errors for clarification. Updated section 7.2 to include communications deliverables. Added appendices to include EIM CBT Course Map and Objectives, EIM Designated Trainer Roles and Responsibilities, and EIM Track 6 Onboarding Readiness Requirements.
3.2	7/6/2021	Ayman Fattah; Nancy Strouse	Updated document for 2023 implementations. Merged with Rodney's version. Fixed grammatical and spelling errors. Updated metadata. Updated format (cosmetic).



 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021

TABLE OF CONTENTS

1	Purpose	4
2	Track 6 Overview	4
3	EIM Training Plan	4
3.1	Computer Based Training (CBT) Courses (T-18 and T-9)	4
3.2	Train-the-Trainer Sessions (T-12)	4
3.3	Workshop Participation	6
4	EIM Operational Readiness	6
4.1	Operational Procedures	6
4.2	EIM Real-Time Communications.....	6
5	Readiness Criteria	7
5.1	Readiness Requirements Evidence and Reporting	7
5.2	Readiness Criteria Process.....	8
6	Track 6 Sample Timeline	9
7	Track 6 Key Deliverables	10
7.1	Training.....	10
7.2	Operations Readiness	12
7.3	Readiness Certification	13
8	Things to Consider.....	14
9	Appendix.....	15
9.1	Appendix A: Course Map and Objectives.....	15
9.1.1	Computer Based Training Courses (CBTs).....	15
9.1.2	Computer Based Training Course Map	15
9.1.3	EIM CBT Course Summaries/Objectives	17
9.2	Appendix B: EIM Designated Trainer Roles and Responsibilities.....	22
9.3	Appendix C: EIM Track 6 Onboarding Readiness Requirements	23

 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021

1 Purpose

This document is to provide entities joining the Energy Imbalance Market (EIM) with an overview of the training and operational readiness deliverables and timing that are part of EIM Track 6.

2 Track 6 Overview

Track 6 provides a series of training events throughout the EIM market timeline. The events include computer based training modules for various roles and responsibilities, train-the-trainer courses which include hands-on scenario trainings with application tools, and optional participation in modeling workshops other tracks. The CAISO will work in partnership with the EIM entity project leads and their designated trainers to prepare the designated trainers to facilitate needed EIM training to entity staff. Finally, training support is provided for Parallel Operations and go-live initiation as needed.

3 EIM Training Plan

The CAISO provides introductory and role-defined training for new EIM entities through several training interactions.

3.1 Computer Based Training (CBT) Courses (T-18 and T-9)


A series of computer-based training courses (CBTs) are made available to EIM entities through an online link. EIM entities are provisioned access with a set number of users within the Learning Management System. The assigned number of users will be determined between each EIM entity and the CAISO training staff. EIM entities are also provided a CBT course map describing which CBTs are considered Core Curriculum (100 level courses) and which courses are recommended for various job functions (200 and 300 level courses). The CAISO training staff maintains a list of authorized users and provides periodic status reports, but it is the responsibility of each EIM entity to notify the CAISO of any changes to the authorized user list.

The individuals responsible for delivering, developing, or making decisions about training within the EIM entity are encouraged to learn as much as possible via the CBTs early in the readiness process. It is also recommended that EIM entities create and manage a plan to have end users complete the applicable CBTs closer to the actual use of the tools and information, depending on their roles and responsibilities.

3.2 Train-the-Trainer Sessions (T-12)

A vital part of preparing for the in-person operations training is preparing the EIM entity's training staff, other key influential users, and change managers on foundational EIM concepts and objectives. This training is focused on providing key paradigms for how the EIM market operates, its key elements, and how the individual operational functions of the EIM Balancing Authority Area (BAA) fit into it.

The EIM entity assigns designated trainers who will be responsible for training their own staff through the onboarding process. These designated trainers should be identified early and must be able to attend a train-the-trainer session, and can commit to facilitating internal training

 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021


sessions for their staff responsible for carrying out EIM roles. Designated trainers can be any individuals that the EIM entity identifies within their organization, but should be available to participate in and facilitate all in-scope scheduled training sessions. The ISO Customer Readiness staff will provide guidance to EIM entity to determine the appropriate audience for each course.

Identified EIM staff participating in the train-the-trainer session will receive practice and training materials via the trainer tool kit sufficient to incorporate into their own in-house training programs.

Some aspects of EIM participation require more detailed study than CBTs can provide. Accordingly, the EIM train-the-trainer contains the following subjects which are considered a baseline from which EIM entities can develop their internal programs.

- EIM Overview Training** - Foundational EIM information that shows the relationship between EIM functions, such as operations, marketers/traders, settlements, and support (EMS, OMS, etc.). Allows EIM entity departments to have a better understanding of how their actions within EIM can impact one another, how to determine roles/responsibilities, and how to develop lines of communication. Reviews the overarching EIM market process from load forecasting through settlements. Structured according to North American Electric Reliability Corporation (NERC) Continuous Education (CE) Program requirements. Successful completion satisfies foundational and application category CBTs level 100 and 200 course requirements.


Audience - Anyone who may be impacted by or who has a direct impact on EIM operations (operators, marketers/traders, settlements, support, management, trainers/change managers, etc.). This will be determined by the entity.

 *The CAISO recommends that members of different departments attend the overview session together to better understand how departments relate within EIM and what types of internal communication procedures they should consider creating.*

- EIM Operations Training** - EIM concepts training using CAISO’s operations tools to practice decision making through operational scenarios. Includes discussion on how to incorporate EIM concepts into daily functions. Encourages hands-on practice to instill confidence in preparation for Day in the Life, Market Simulation, and Parallel Operations prior to go-live. Structured according to NERC Continuing Education (CE) Program requirements NERC Continuing Education Hours (CEHs). Successful completion satisfies level 300 course requirements.

Audience - This course is intended for Entity Operators carrying out EIM responsibilities and those providing, direct support to operators (such as EMS, outage coordinators, etc.). NOT recommended for traders/marketers and settlements personnel.

- EIM Settlements Training** - Builds on the foundational information learned in the EIM overview course by applying charge codes, calculations, and decision making for

 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021

settlement scenarios. Review of documents and other resources critical to process EIM Settlements. Successful completion of this course along with Application category CBTs satisfies level 200 course requirements.

Audience - Settlements analysts and settlements management. Operators and traders/marketers may also participate if they are curious about how actions result in settlements (up to the discretion of the EIM entity).

3.3 Workshop Participation

The CAISO training team may also participate in the following CAISO workshops provided for the EIM entity in an indirect observational role. As these workshops fall under alternate readiness tracks, the EIM entity will coordinate these optional sessions through the CAISO PM:

- **Track 4 Modeling Workshops (T-13)**
- **Track 4 Integration and Testing Workshop (T-13)** - Review training plan and inform the development team of the trainings that will be beneficial to the technical team.
- **Track 4 Merchant Workshop (T-3, during Market Simulation)** - Review training provided to the EIM entity merchant team attending the workshop.
- **Track 5 Settlements Workshop** - Optional review of settlements concepts for settlements staff.

4 EIM Operational Readiness


4.1 Operational Procedures

EIM entities are responsible for developing their own internal EIM Operational Procedures. These are required as part of the Readiness Criteria that will be submitted to the Federal Energy Regulatory Commission (FERC) before go-live. Some EIM entities have chosen to provide draft copies of their procedures to CAISO for review prior to finalization.

- CAISO will provide the CAISO EIM operational procedures months before testing begins so that the EIM entity can begin developing their own procedures before testing begins (due T-9).
- The EIM entity is expected to have their operational procedures developed and internally approved before Parallel Operations begins.

4.2 EIM Real-Time Communications

For time-sensitive market related questions, discussions, and system updates, EIM real-time operators will primarily interact with the RTMO, therefore the EIM entity must provide a current direct phone number and email distribution list for their EIM real-time operations desk. A test will be conducted via phone call and Everbridge message to the contact information supplied by the EIM entity prior to Parallel Operations to ensure that calls and messages from the RTMO can be received and responded to by the EIM entity's on-shift EIM real-time market operator.

 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021

5 Readiness Criteria

All new EIM entities must meet certain readiness criteria as determined by FERC in Tariff Section 29.2(b)(7).

5.1 Readiness Requirements Evidence and Reporting

The CAISO and the prospective EIM entity shall each file a market readiness certificate with FERC no later than 30 days prior to the EIM Entity Implementation Date. The CAISO and EIM entity senior officers must certify to the following:


- Attest that the processes and systems of the prospective EIM entity have satisfied or will satisfy the readiness criteria as of the EIM Entity Implementation Date.
- Identify all known issues requiring resolution prior to the EIM Entity Implementation Date.
- Identify any exceptions from the established thresholds and that despite such exceptions the criteria were met or will be met.
- The EIM Entity Implementation Date is conditional on the resolution of the known issues identified in the certificates and any unforeseen issues that undermine the satisfaction of the readiness criteria.

Evidence must be developed and available for all Readiness Criteria to prove it is complete and identify any known issues and/or exceptions. Evidence is stored on the EIM entity’s secured site and noted in the Readiness Criteria Worksheet. Refer to Appendix C of this document for examples of how to report completion of items #6, #13-14, and #30-31 of the Readiness Criteria Worksheet.

During Market Simulation, the CAISO must post, at minimum, a monthly update on progress toward the completion of Readiness Criteria, and not less than twice per month during Parallel Operations. These reports will be published on the CAISO website.

The Readiness Criteria will include the following:


- Full Network Model Integration
- Operations Training
- Forecasting Capability
- Balance Schedules
- System Readiness and Integration
- Settlements
- Outage Management System
- Communications between the CAISO and the prospective EIM entity
- Market Simulation

 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021

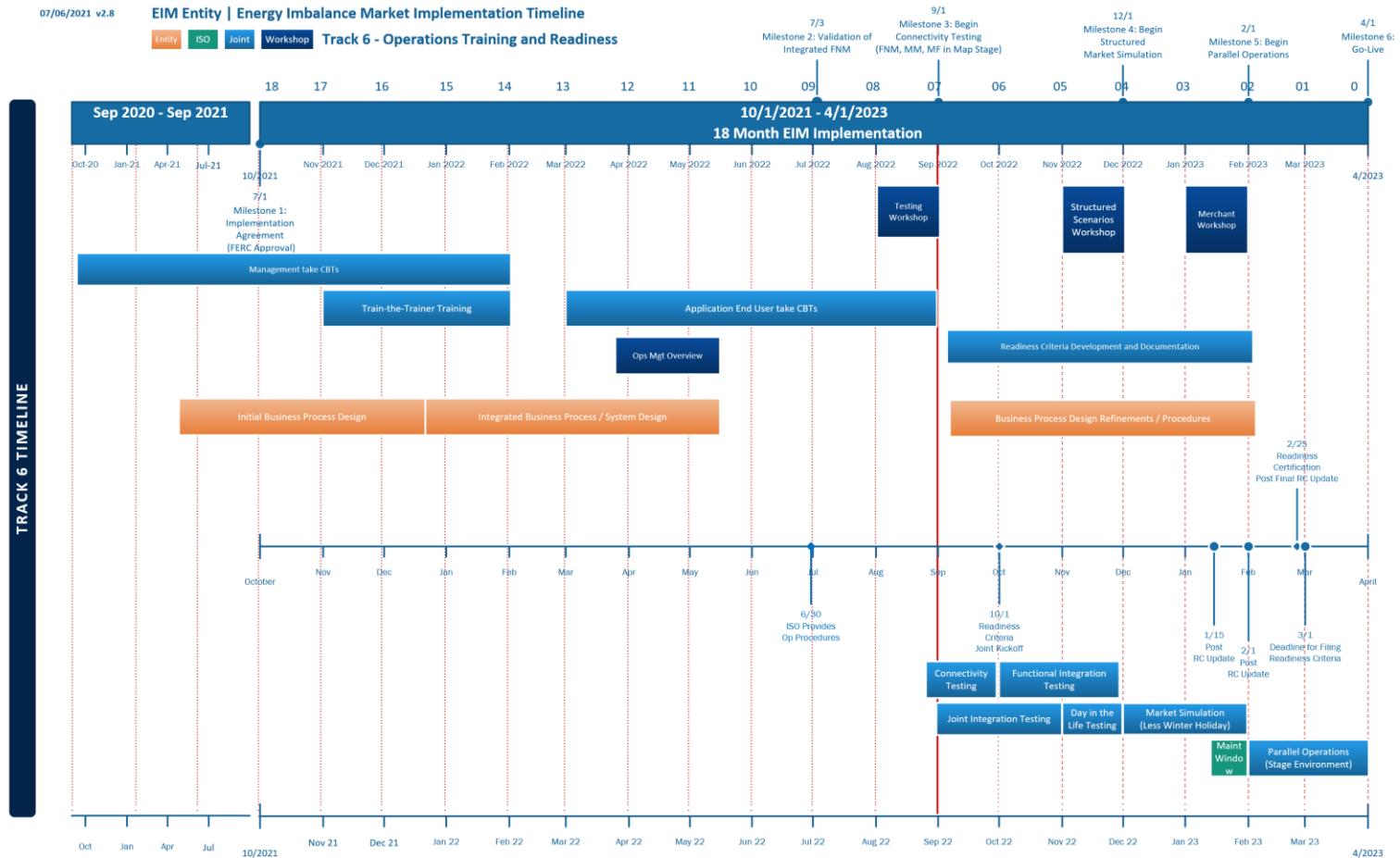
- Parallel Operations Plan
- Agreements
- Operating Procedures
- EIM Available Balancing Capacity
- Flexible Capacity Requirements
- Monitoring

5.2 Readiness Criteria Process

1. The Readiness Criteria worksheet is used to track status toward readiness. The template can be found on the EIM entity’s secured site in the Track 6 folder. The worksheet is used as a tracking tool for both the EIM entity and the CAISO. It contains a list of each criteria in the tariff, measureable elements, thresholds, the EIM entity and CAISO staff responsible for each criteria, plus the status of each. This worksheet is also used as a template for the required progress updates posted to the [CAISO website](#) during Market Simulation and Parallel Operations.
2. The EIM entity assigns an overall Readiness owner to manage, monitor the readiness criteria, report progress in the weekly status reports, and ensures that all are tracked through to completion.
3. Both the CAISO and the EIM entity will identify owners for each criteria. The owner is responsible for ensuring the criteria has been met, and that appropriate evidence is captured and stored on the entity’s secured site in the Track 6 > Readiness Criteria folder.
4. The CAISO PM will review the readiness criteria with the EIM entity owners, bringing in specific subject matter experts, as needed, to provide clarification and answer questions regarding the criteria and evidence.
5. Regular joint meetings are held with owners to check progress.
6. The CAISO project manager will post status updates to the [CAISO website](#) as required by the Tariff (monthly during Market Simulation and twice monthly during Parallel Operations).

 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021


6 Track 6 Sample Timeline



Owner: Carder, Heidi

Program Management Office

Copyright 2021 California ISO


 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021

7 Track 6 Key Deliverables

The following are key deliverables required by both the EIM entity and the CAISO. Dates shown in the “Timing” columns are approximate based on entity readiness schedules. ***The EIM entity should make every attempt to complete these deliverables no later than the timing date.***

7.1 Training


Deliverable	Owner	Timing	Description of Deliverable	Format
EIM Training Plan	CAISO	T-18	The EIM Training Plan provides a roadmap of the strategic plan for informing and qualifying EIM entity employees during the EIM project. The training overview in this document serves as a guide for the EIM entity to be able to layout their own Training Plan to meet the Track 6 Operations Training and Readiness requirements.	Report
EIM CBT Training	CAISO	T-18 for Designers T-9 for End Users	<p>Online training modules designed to provide EIM entities with an introductory understanding of EIM concepts and tools. Satisfies level 100 Foundational and level 200 Application category training required in the CAISO Tariff, for Operations as well as Settlements training.</p> <p>Introductory EIM CBTs are located at: (https://www.westerneim.com/Pages/Resources.aspx) while role specific CBTs require a username and password setup.</p> <p>Refer to Appendix A in this document for a full list of available CBTs and their objectives. Refer to Appendix C for suggestions on how to report completion of this deliverable.</p>	CBT
Training Map	CAISO	T-18	<p>Role-specific training recommendations. This is a high level view of the CAISO EIM training and how it relates to specific roles.</p> <p>Refer to Appendix A in this document for a list of recommended CBTs per role.</p>	PDF
Train-the-Trainer Orientation	CAISO	T-16	Webinar to walk EIM entities through the training events outlined in the Track 6 document. This includes the organization and structure of the EIM training program as well as what the EIM entity can expect of the CAISO training team.	Meeting

 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021

Deliverable	Owner	Timing	Description of Deliverable	Format
			The intended audience for this meeting are those within the EIM entity responsible for coordinating, tracking, delivering and/or facilitating training throughout the EIM onboarding process, as well as ongoing training after they have successfully gone live.	
Identify Designated Trainer(s)	EIM Entity	T-15	<p>The EIM entity will identify one or more designated trainers that are available to attend a train-the-trainer session delivered by the CAISO. Designated trainers can be any individuals that the EIM entity identifies within their organization who will be available to participate in, deliver and/or facilitate all scheduled training sessions.</p> <p>Refer to Appendix B in this document for designated trainer criteria.</p>	Report
Train-the-Trainer Session: EIM Overview Training	CAISO	T-12	<p>Fundamental, hands-on training for the EIM entity trainers, SMEs, and change managers as determined by the entity to assist in EIM Readiness and ongoing EIM training. Includes designated trainer teach backs.</p> <p>Foundational EIM information that shows the relationship between EIM functions, such as operations, marketers/traders, settlements, and support (EMS, OMS, etc.). Successful completion satisfies foundational and application category CBTs level 100 and 200 course requirements.</p>	14 hour virtual training (over 3 days)
Train-the-Trainer Session: EIM Operations Training	CAISO	T-12	<p>Fundamental, hands-on training for the EIM entity Operations trainers, SMEs, and change managers as determined by the entity to assist in EIM Readiness and ongoing EIM training. Includes designated trainer teach backs.</p> <p>EIM concepts training using CAISO's operations tools to practice decision making through operational scenarios. Encourages hands-on practice to instill confidence in preparation for Day in the Life, Market Simulation, and Parallel Operations prior to go-live. Successful completion satisfies level 300 course requirements.</p>	18 hour virtual training (over 3 days)
Train-the-Trainer Session: EIM Settlements Training	CAISO	T-12	<p>Fundamental, hands-on training for the EIM entity Settlements trainers, SMEs, and change managers as determined by the EIM entity to assist in EIM Readiness and ongoing EIM training. Includes designated trainer teach backs.</p>	14 hour virtual training (over 3 days)

Owner: Carder, Heidi


Program Management Office

 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021

Deliverable	Owner	Timing	Description of Deliverable	Format
			Builds on the foundational information learned in the EIM overview course by applying charge codes, calculations, and decision making for settlement scenarios. Review of documents and other resources critical to process EIM Settlements. Successful completion of this course along with Application category CBTs satisfies level 200 course requirements.	
EIM Entity Staff Training	EIM Entity	T-12 to T-2	<p>EIM entity management and designated trainers will deliver their own training to identified EIM entity staff based on their internally developed onboarding training plan.</p> <p>This refers to item #6 of the EIM Readiness Criteria Worksheet.</p> <p>Refer to Appendix C in this document for suggestions on how to report completion of this deliverable.</p>	Varies per entity
Parallel Operations Support	CAISO	T-2	As needed training support prior to during parallel operations prior to go-live.	Varies per entity
Go-Live Support	CAISO	T	Training support prior to and after go-live dependent upon needs.	Varies per entity

7.2 Operations Readiness


Deliverable	Owner	Timing	Description of Deliverable	Format
CAISO Operational procedures	CAISO	T-9	<p>The CAISO will provide the EIM entity with the CAISO Operational procedures on the secured site, once the NDA is approved.</p> <p>This refers to item #13 of the EIM Readiness Criteria Worksheet. Refer to Appendix C in this document for suggestions on how to report completion of this deliverable.</p>	Word/PDF
Draft EIM Entity Operational Procedures	EIM Entity	T-5	The EIM entity will provide a first draft of their updated Operational procedures before Market Simulation begins.	Word/PDF
Communications between the CAISO	EIM Entity	T-4	EIM entity provides a direct phone number to Customer Readiness for their EIM Real-Time	Email

 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021

Deliverable	Owner	Timing	Description of Deliverable	Format
and the Prospective EIM Entity – Voice			Operations desk to be programmed into the RTMO phone system.	
Communications between the CAISO and the Prospective EIM Entity – Email	EIM Entity	T-4	EIM entity provides an email distribution list to Customer Readiness for their EIM Real-Time Operations desk to be used for Everbridge messaging from the RTMO.	Email
Communications between the CAISO and the Prospective EIM Entity – Demonstration	CAISO	T-4	<p>Customer Readiness coordinates both voice and Everbridge messaging tests between RTMO and EIM Entity EIM Operations Desk based on contact information supplied as part of Track 2.</p> <p>This refers to item #30 and 31 of the EIM Readiness Criteria Worksheet. Refer to Appendix C suggestions on how to report completion of this deliverable.</p>	Call, Everbridge, and Email
Final EIM entity Operational Procedures	EIM Entity	T-2	<p>The EIM entity will provide final updated Operational procedures before Parallel Operations begins.</p> <p>This refers to item #14 of the EIM Readiness Criteria Worksheet. Refer to Appendix C in this document for suggestions on how to report completion of this deliverable.</p>	Word/PDF

7.3 Readiness Certification

Deliverable	Owner	Timing	Description of deliverable	Format
CAISO Readiness Certification Worksheet	CAISO	T-8	Worksheet designed to document readiness criteria owners and track progress as the criteria evidence is being developed.	Excel
Readiness Kickoff	Joint	T-8	<p>Introductory meeting between the CAISO and the EIM entity readiness criteria owners.</p> <p>Refer to Appendix C in this document for suggestions on how to report completion of Track 6 deliverable requirements #6, 13-14, and 30-31.</p>	Meeting

 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021

Deliverable	Owner	Timing	Description of deliverable	Format
Readiness Certification Progress posted online (three posts minimum)	CAISO	Not less than monthly during MS. Not less than twice per month during PO.	Readiness Criteria progress tracking sheet will be published to the caiso.com website. This includes the criteria, description, threshold, status and any notes needed to make the status clear.	Excel
CAISO Readiness Certification Letter to FERC	CAISO	T-1	The CAISO must provide a certification letter to FERC once all readiness criteria have been met.	Word
EIM Entity Readiness Certification letter to FERC	EIM Entity	No later than 30 days prior to EIM Implementation date	The EIM entity must provide a certification letter to FERC once all readiness criteria have been met.	Word

8 Things to Consider


End users are most effective if trained as close to Parallel Operations as possible. End users are determined by the EIM entity based on organizational departments and roles participating in EIM activities.

Subject Matter Experts (SMEs) and/or EIM Entity Trainers are most effective if trained early in the onboarding process. SMEs for the following should be identified:

- Metering
- Settlement
- Market/Traders
- Reliability/Grid Operations
- Outage
- Application Access

Identified SMEs become EIM experts and are embedded into the core project/implementation, participating in Training, Functional Testing, Market Simulation, and Parallel Operations.

SMEs team up with internal trainers to customize the training for their organization (bid to bill) based on CAISO provided training materials and knowledge gained during testing. EIM trainers are encouraged to conduct enhanced, system specific hands-on scenarios for their identified end users (Operations, Settlements, Traders, etc.) during the second half of Day in the Life Testing, once the systems become more stable.

 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021

9 Appendix


9.1 Appendix A: Course Map and Objectives

9.1.1 Computer Based Training Courses (CBTs)

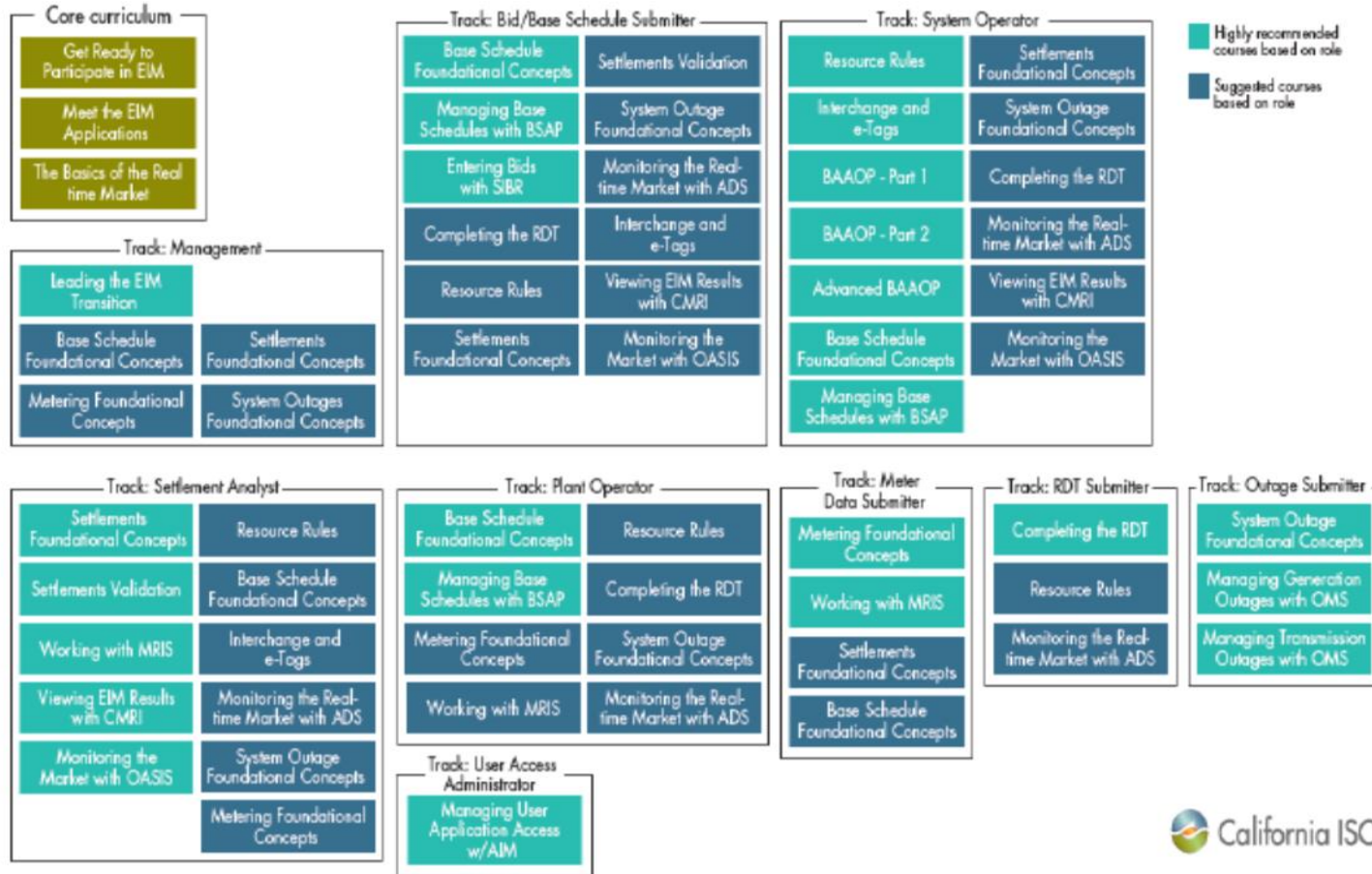
9.1.1.1 EIM CBT User Roles: Users should be added to one or more of the following roles, based on their job functions

- **Bid/Base Schedule Submitter:** Submits bids and base schedules in support of the real-time market for EIM.
- **Management:** Staffs and conducts resource planning for EIM. They may not be performing the day-to-day responsibilities of EIM.
- **Meter Data Submitter:** Sends meter data to the ISO for settlements purposes. This group is not responsible for meter installation and maintenance.
- **Other:** Provides access to every CBT.
- **Outage Submitter:** Submits changes in availability and communicates important information related to equipment.
- **Plant Operator:** Responsible for both short and long term power plant operations.
- **RDT Submitter:** Captures resource characteristics to provide to the ISO through the Resource Data Template.
- **Settlements Analyst:** Analyzes the financial outcome of the ISO markets.
- **System Operator:** Conducts real-time operations and monitors the reliability of the bulk electric system. This includes outage management and support staff.
- **User Access Administrator:** Provides access to ISO Systems.

9.1.2 Computer Based Training Course Map

 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021

WESTERN EIM Computer Based Training Course Map




06/05/2017

Owner: Carder, Heidi

Program Management Office

Copyright 2021 California ISO

 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021

9.1.3 EIM CBT Course Summaries/Objectives

Foundational Courses

Getting Ready to Participate in EIM is an introduction to the ISO and to the EIM for new participants.

- **Getting ready for training:** Learn what the ISO is, its relation to EIM, and your training path.
- **The basics:** Gain a better understanding of how EIM works and the benefits of EIM.
- **Digging deeper:** Learn the concepts behind EIM and roles and responsibilities related to EIM.

Leading the EIM Transition was developed for the management audience.

- **Getting started:** Learn about the agreements and process steps to join EIM.
- **Change for the better:** Gain a better understanding of how joining EIM impacts your business.
- **Your next steps:** Learn about what comes next in the EIM submission process.

The Basics of the Real-Time Market explains the ISO market to new EIM participants.


- **Real-time concepts:** learn about the inputs required and outputs produced in EIM.
- **Timeline and processes:** Gain a better understanding of how market inputs and outputs fit in the EIM timeline processes, including the flexible ramping product.

Base Schedules Foundational Concepts explains a base schedule and why it is important to manage energy needs.

- **Base schedule basics:** Learn about a base schedule and why it is important to manage energy needs.
- **Roles and responsibilities:** Discover the people and tasks associated with creating and managing base schedules.
- **Resource sufficiency evaluations:** learn about the tests that are run to ensure that BAs have adequate bids and base schedules to meet their needs.

EIM Resource Rules provides information on single stage and multi-stage generators and their impact on base schedules and bids.

- **Defining resource types:** Learn the difference between a single stage generator and a multi-stage generator and the impact of non-operable regions within their operating capabilities.
- **FOR scenarios:** Learn how to prevent a dispatch in a forbidden operating region (FOR) in a variety of situations.
- **Completing the RDT:** Learn how the Resource Data Template relates to single stage and multi-stage generators (MSGs).

 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021

- **MSG resource decisions:** Help EIM participants make good business decisions with their MSG resources.

System Outages: Foundational Concepts provides basic information about outage concepts, including timelines and process rules.

- **System outage basics:** Learn about the basics of outages.
- **Process rules:** See more about outage timelines and modifying or canceling outages.
- **Outage scenarios:** Practice what you know with real life outage scenarios.

Interchange and e-Tags explores how interchange is handled in EIM, and special requirements for e-Tags for EIM participants.

- **Interchange and e-Tag basics:** Learn about interchange and how e-Tags are used.
- **ETSRs:** Learn about Energy Transfer System Resources (ETSRs) and how ETSR limits are calculated.
- **EIM interchange requirements:** Learn about the requirements for e-Tags and special terms used in EIM.

Metering Foundational Concepts provides key information related to the metering process.


- **Metering basics:** Learn about the basics of metering and how it impacts settlements.
- **Physical metering:** See more about resource metering and how your portfolio impacts data submission.
- **Meter data submission and timelines:** See how settlement quality data is created, and how important the timeline is to your business.

Settlements Foundational Concepts introduces learners to the key concepts of settlements and settlement validation.

- **Settlement basics:** Learn about the settlements process, what goes into a settlement statement, and deadlines related to settlements.
- **Validating settlements:** Learn about some of the tools and terms you will need to know to help you validate settlements.
- **Resolving common issues:** Learn about the importance of using timely and accurate data in settlements.

Settlements Validation introduces learners to common settlement charge codes in preparation for validating settlement statements.

- **Validation basics and timeline:** Learn about the settlements validation process and the charges and payments related to key points on the market timeline.
- **The basics of charge codes:** Learn about the market conditions that trigger charge codes by seeing a simple scenario in action.
- **The charge codes in action:** Learn about additional market conditions and their related charge codes by working through more advanced scenarios.

 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021

Application Courses

Meet the EIM Applications provides a "big picture" view of the applications used to participate in EIM. You'll learn what applications are used in your role, their purpose, and how they work with other applications.

- **A day in the life of EIM:** Learn about the applications used in EIM.
- **A closer look:** Learn more about the applications used in your role.
- **Deeper dive scenarios:** Check your knowledge on the applications used in your role.

Completing the RDT helps new EIM participants understand how to fill out the ISO's resource data template in order to populate the master file with resource information.

- **Make the connection:** Learn how the RDT fits into the overall workflow of EIM.
- **See it in action:** See how to complete the RDT to provide reliable static data to market applications.
- **You try it:** Review completed RTDs to identify common errors in data entry, single stage generator data, and the use of template colors.
- **Show what you know:** Take a quiz to identify and describe key RDT concepts and tasks.

Managing Base Schedules with BSAP is for EIM participants who will submit base schedules through the Base Schedule Aggregation Portal (BSAP) application.


- **Make the connection:** Learn how BSAP fits into the overall workflow of the EIM and other applications.
- **See it in action:** Learn how BSAP used the information to provide good data. See how to submit and balance a base schedule.
- **You try it:** Practice entering, submitting and balancing base schedules in BSAP.
- **Show what you know:** Take a quiz to identify and describe key BSAP concepts and tasks.

Entering Bids in SIBR provides an overview of the SIBR application that scheduling coordinators use to enter bids.

- **Make the connection:** Learn how SIBR fits into the overall workflow of EIM.
- **See it in action:** Learn how to navigate in the SIBR interface. Learn how to enter bids in SIBR, including daily and hourly bid components.
- **You try it:** Practice key tasks in SIBR. Enter daily and hourly bid components, and interpret data and bid statuses from the bid summary.
- **Show what you know:** Test your knowledge of key SIBR concepts. Complete tasks in SIBR based on real-world scenarios.

BAAOP Basics Part 1 is for system operators of the EIM entity, who will be using the Balancing Authority Area Operations Portal (BAAOP) to manage the real-time market.

- **Make the connection:** Learn how BAAOP fits into the overall workflow of EIM and other applications.
- **See it in action:** Learn how BAAOP used the information to balance the market. See how to correct the market when it is infeasible.
- **You try it:** Practice a real-world scenario in BAAOP.

 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021

BAAOP Basics Part 2 is for system operators of the EIM entity, who will be using the Balancing Authority Area Operations Portal (BAAOP) to manage the real-time market.

- **Back to basics:** Refresh your memory on the key takeaways from BAAOP basics, part 1.
- **See it in action:** Learn more about how BAAOP is used to balance the market. See how to correct the market when it is unbalanced.
- **You try it:** Practice using a real-world scenario in BAAOP.
- **Show what you know:** Take a quiz to identify and describe key BAAOP concepts and tasks.

Advanced BAAOP provides information and practice on managing the real-time market. It also identifies methods of troubleshooting market-related issues.

- **Troubleshooting in BAAOP:** Refresh your memory on the key takeaways from the BAAOP basics courses and identify methods of troubleshooting market-related issues.
- **See it in action:** See how BAAOP is used to troubleshoot real-time market issues with some advanced processes and critical thinking.
- **You try it:** Practice using BAAOP to troubleshoot real-time market issues.
- **Show what you know:** Take a quiz and complete simulations to identify and describe key BAAOP troubleshooting concepts.

Managing Generation Outages with OMS provides an overview of the Outage Management System (OMS).


- **Make the connection:** Learn how OMS fits into the overall workflow of EIM and other applications.
- **See it in action:** Learn how to navigate the OMS dashboard and see how to complete various tasks in OMS, like submitting and modifying outages.
- **You try it:** Given real-world scenarios, practice completing common tasks in OMS.
- **Show what you know:** Test your knowledge of key OMS concepts and your ability to complete key tasks in OMS.

Managing Transmission Outages with OMS provides an overview of the Outage Management System (OMS) and how it is used to manage transmission outages (OMS) and how it is used to manage generation outages.

- **Make the connection:** Learn how OMS fits into the overall workflow of EIM and other applications.
- **See it in action:** Learn how to navigate the OMS dashboard, and see how to complete various tasks in OMS, like submitting and modifying outages.
- **You try it:** Given real-world scenarios, practice completing common tasks in OMS.

Monitoring the RTM with ADS provides information on the ADS application.

- **Make the connection:** Learn how ADS fits into the overall workflow of EIM.
- **See it in action:** See how ADS is used to view and send market instruction information.
- **You try it:** Practice using ADS to identify the key fields used, acknowledge alarms, and query instructions.
- **Show what you know:** Take a quiz to identify and describe key ADS concepts and tasks.

 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021

Viewing Your EIM Data with CMRI provides an overview of the CMRI reporting interface that contains proprietary market information resulting from the real-time market process.

- **Make the connection:** Learn how CMRI fits into the overall workflow.
- **See it in action:** Learn how to perform common tasks within CMRI to view data and run reports.
- **You try it:** Practice using CMRI to locate data.
- **Show what you know:** Answer questions and complete scenarios to demonstrate how to locate required information.

Monitoring the Market with OASIS shows you how to use OASIS to monitor market results. Explore how OASIS fits into the larger picture of EIM participation and other applications.


- **See it in action:** Learn about the types of reports and data you can find in OASIS and how to find specific information when you need it.
- **You try it:** Practice using various tabs in OASIS to find reports and data you need.
- **Show what you know:** Test your knowledge of key OASIS concepts. Complete tasks in OASIS based on real-world scenarios.

Managing User Application Access with AIM teaches User Access Administrators (UAA) how to use AIM to manage access to EIM applications.

- **Make the connection:** Learn how AIM fits into the larger picture of other EIM applications.
- **See it in action:** Learn how to perform common tasks within AIM, including creating and managing users, renewing certificates, and managing access control list (ACL) groups.
- **You try it:** Practice using AIM to create users, manage user access, and renew certificates.
- **Show what you know:** Answer questions and complete scenarios to demonstrate how to locate required information.

Working in MRI-S provides information on working with meter data and settlements files.

- **Make the connection:** Learn how MRI-S fits into the overall workflow of EIM and other applications.
- **See it in action:** Learn how to use the Batch Status and Meter Data tabs to work with meter data, and how to use the Statements tab to work with settlements files.
- **You try it:** Given real-world scenario, practice completing common tasks in the Batch Status, Meter Data and Statements tabs.
- **Show what you know:** Test your knowledge of key MRI-S concepts and your ability to complete key tasks in MRI-S.

 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021

9.2 Appendix B: EIM Designated Trainer Roles and Responsibilities

Prerequisite Knowledge / Skills

- Complete CBTs prior to Train-the-Trainer (T3) attendance.
- Possess general knowledge and/or expertise of roles(s) EIM entity assigns individual to train.
- Comfortable with learning new information quickly and communicating changes to EIM entity staff.

Train-the-Trainer Course Participation

- Attend at least one multi-day Train-the-Trainer (T3) Workshop session.
- Actively participate in teach back activities during the Train-the-Trainer Workshop.


💡 *While EIM entity contractors are welcome participate in the Train-the-Trainer Workshop, we highly advise that **at least one designated trainer should be a direct employee** of the entity to ensure training continuity beyond the EIM implementation period.*

Level 100, 200 and 300 Instructor-Led Training Facilitation

- Schedule and facilitate EIM training sessions with EIM entity staff (as needed and determined by the EIM entity).

Active Collaboration

- Respond to inquiries from the Customer Readiness team as needed.
- Assist with incorporating ISO provided training materials into EIM entity training processes.
- Participate in regularly scheduled check-ins and follow ups via phone/webinar.

 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021

9.3 Appendix C: EIM Track 6 Onboarding Readiness Requirements

EIM Onboarding Requirement #6: Operations Training (Levels 100, 200 and 300)

- Customer Readiness to provide tracking template in the Trainer Toolkit.
- **100 Series:** An introduction to EIM training provided through foundational CBTs.
- **200 Series:** The specific hourly and daily tasks and duties for normal operation training provided through applications based computer-based training courses.
- **300 Series:** The assessment of market results and response to contingencies and abnormal situations training provided through hands-on scenario-based training courses.


Example of evidential email text: *“Please consider this email confirmation that [Organization] has completed EIM Track 6 Onboarding Requirement #6 Prospective EIM Entity operators and personnel who will have responsibility for EIM operations, transactions and settlements, will complete CAISO training modules. [Organization’s] designated trainer(s) attended the EIM Train-the-Trainer session delivered by the ISO, and used this information as a foundation for providing this Level 100, 200 and 300 series training, in conjunction with assigned CBTs, to our identified staff. We have tracked completion but acknowledge that this evidence is for our own auditable records, though we may choose to upload them to the Track 6 evidence folder in the CAISO secured site.”*

EIM Onboarding Requirement #13 & #14: Operating Procedures

- Prospective EIM entities are to be given access to applicable Operating Procedures from Customer Readiness. If an NDA is required to view confidential materials, Customer Readiness will help facilitate the process.
- 💡 *As of 2020, an NDA is no longer required since all identified Operating Procedures are now public and a list shared with entity greater than 4 months in advance.*

Example of evidential email text: *“Please consider this email confirmation that [Organization] has completed EIM Track 6 Onboarding Requirement #13 the prospective EIM Entity signs CAISO non-disclosure agreement and receives appropriate CAISO “public” and “restricted” operating procedures. ISO shared a list of applicable ISO Operating Procedures found on the www.caiso.com site which we were able to download for EIM onboarding purposes.”*

- Prospective EIM entities are to create their own internal EIM procedures and train their identified end-users on them. An email to Customer Readiness at the completion of this stating that they were given access to Procedures, developed their own internal EIM procedures (draft and “final”) and trained their employees mid-market simulation, prior to parallel operations. It is recognized that the Prospective EIM entity may make changes to these procedures as they learn more through parallel operations.

 California ISO	Technology	Template Version:	1
		Document Version:	3.2
EIM Track 6 Overview – Training and Operations Readiness		Date Created:	7/6/2021

Example of evidential email text: *“Please consider this email confirmation that [Organization] has completed EIM Track 6 Onboarding Requirement #14 the prospective EIM Entity operating procedures are defined, updated, and tested for the EIM Entity Scheduling Coordinator. We have created our own EIM Operating Procedure(s) and implemented them, including sharing them with applicable [Organization] personnel prior to parallel operations. It/They has/have been uploaded to the Track 6 Evidence folder in the CAISO secured site. We acknowledge that this/these procedure(s) may be updated during parallel operations as needed.”*

EIM Onboarding Requirement #30 & #31: Communications between the CAISO and the Prospective EIM Entity

- Customer Readiness coordinates both voice and Everbridge messaging tests between RTMO and EIM Entity EIM Operations Desk based on contact information supplied as part of Track 2.
- Once this is completed, Prospective EIM entity sends an email to Customer Readiness confirming these communication tests have been completed.

Example of evidential email text: *“Please consider this email confirmation that [Organization] has completed EIM Track 6 Onboarding Requirement #30 Implemented process and procedures used for voice and/or electronic messaging, and #31 Staff are trained on communication procedures and tools. Phone calls using the documented EIM Operations desk and Everbridge messaging using the documented EIM Operations desk email address have been tested with the RTMO and deemed successful.”*