California ISO

Independent 2017 Release External Deployment Plan

Version 1.0

October 9, 2017

Contents

Revisions

Date	Version	Description	Author
10/09/2017	1.0	Initial for BRE-B, Gas Burn, EIM 2017	Trang Deluca

Introduction

Executive Summary

In the Independent 2017 Release, the California ISO will deploy numerous system changes from various projects and other efforts. The intent of this document is to provide market participants with a description of the timeline and activities for the Independent 2017 Release.

Project Descriptions

The Independent 2017 Release includes changes to support the following projects.

Bidding Rules Enhancements – Generator Commitment Cost Improvements – Implementation

This initiative is revisiting commitment costs for gas-fired resources to address through long-term market design changes the ability to allow for commitment cost caps, and commitment cost bids, to provide sufficient cost recovery.

A summary of the issues and CAISO proposal to address them are listed below:

No.	Issue	Proposal
1	Gas price index may not reflect resource-specific gas transportation costs.	Increase the flexibility of registering fuel regions and allow for cap-and-trade credits to the base gas transportation rates for resources with GHG compliance costs within these fuel regions.
2	Gas price index does not reflect base gas transportation credits for resources with GHG compliance costs within these fuel regions.	Improve formulation of fuel region where each fuel region reflects a unique combination of commodity price, base gas transportation costs, and base gas transportation cap-and-trade credits.
3	Electricity price index may not reflect resource-specific start-up electricity costs.	Include resource-specific start-up electricity costs in proxy costs based on wholesale projected electricity price (estimate of auxillary energy costs based on monthly GPI for unit with a heat rate of 10,000 Btu/KWh) unlessresource verifies costs incurred are retail rates.

More information can be found under Independent 2017 release on the Release Planning page at http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx.

Gas Burn Report UI/API

This project is primarily to create a UI/API for gas companies accessing timely gas burn estimate data, and provide additional necessary gas data. The purpose is to implement ISO Market software functionality to calculate and present gas burn estimates to gas companies serving electric generation located within the CAISO BAA. This functionality is needed to provide timely information to the gas companies to manage their respective gas operations. The data is critically important during times of gas supply and/or gas system constraints.

- The forecast gas usage data is currently sent to the gas companies daily via an Excel spreadsheet attachment in an email, for Day Ahead (12:30pm) and Two Days Ahead (3:45pm). Current process and tool(s) are not suited for providing external access to the report data.
- Based on requests of the gas companies receiving daily gas burn estimate reports, a user interface or system to system interface is needed to streamline the processing of the gas burn data.
- Gas Companies, Market Participants with interest in gas fueled electric generation, external agencies would be affected.

I. **Automation of Providing Gas Burn Estimate Data through UI/API**

- Gas burn estimate data is available for consumption into gas operations management systems, and the respective systems in all gas companies.
- Provide automated mechanism for gas companies and operations management systems processing of gas burn estimate data.
- A UI/API shall be created to provide the gas burn estimate data for gas companies.

II. **Providing All Necessary Gas burn estimate data**

- In addition to the existing data, detail generation unit data and plant meter grouping to enable curtailment calculation at plant meter level. So the data for Transmission zone and pipelines (serving the plant) will be provided. See the updated mapping of gas information below.
- Only providing the information to the gas companies that serve the generators and only to the gas companies who have executed the NDA.
- All gas companies would be able to consume daily (on an hourly basis) gas burn estimate data at gas service area level, gas forecast zone level, unit (equivalent to resource) and plant level for Day Ahead and Two Days Ahead. Proposing to provide the real time (hourly and probably also 15min) gas burn estimate data.
- All the gas information will be available in MF through the GenDB MF Consolidation project, to support the automation process mentioned above.

The mapping of resources/units to gas forecast zone to service area to gas company, with added transmission zone and pipelines, is shown below.

- A Gas Company (equivalent to Gas Operator/ Pipeline Operator) could have multiple Gas Service Areas, while a Gas Service Area only belongs to one Gas Company.

- A Gas Service Area (equivalent to the physical pipeline system a gas company manages) could have multiple Gas Forecast Zones, while a Gas Forecast Zone only belongs to one Gas Service Area.
- A Gas Service Area could have multiple Gas Transmission Zones, while a Gas Transmission Zone only belongs to one Gas Service Area. Gas Forecast Zone and Gas Transmission Zone are parallel definitions for the similar granularity.
- A Gas Forecast/Transmission Zone will be associated to multiple Gas Customer Meters. A Gas Customer Meter may belong to a Gas Forecast Zone and a Gas Transmission Zone.
- A Gas Customer Meter could have multiple Gas Resources, while a Gas Resource only belongs to one Gas Customer Meter A pipeline could be within one Gas Company, across multiple Gas Service Areas, across multiple Gas Forecast Zones, across multiple Gas Transmission Zones, and vice versa. A pipeline could include multiple Gas Customer Meters, but a Gas Customer Meter will be associated to only 1 pipeline.

More information can be found under Independent 2017 release on the Release Planning page at http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx.

Energy Imbalance Market Enhancements 2017

The purpose of this project is to collectively address the following important issues identified by policy, operations, technology, business and market participants to improve the functions and features of resource modeling and Energy Imbalance Market (EIM) due to market participant demands and needs:

1. **Access & Integration: EIM Entity Access in ALFS, MF, OASIS, WebOMS, CMRI**

   Target:

   - Support a new EIM entity through configuration without application changes, in ALFS, MF, OASIS, WebOMS, and CMRI. Move existing External BAA Operational reports into CMRI, subject to certifications. **(2017)**

   Business need:

   - Efficiently Support new EIM entities without application release
   - Bypasses endorsement of EIM Entity for EIM Entity SC wishing to provide access
   - Ability for EIM Entities to retrieve FSP-Provided VER Forecasts from CMRI

2. **Data Report: EIM Data Report Enhancements to Support Market Participant and EIM Entity Settlements**

2.1 Alternative OASIS Report for all RT LAP Prices.

Target:

- Provide an OASIS report for all RT LAP prices. **(Winter 2017)**

Business need:

- Presently the method for obtaining ELAP prices for hourly load settlements adds significant time and resources to manage on market participants. The bill determinant files are becoming very large.

2.2 Settlements Publish EIM Transfer Amount between EIM Entities.

Target:

- ISO settlements will publish bill determinants that contains EIM transfer $ amount between EIM entities. **(Winter 2017)**

Business need:

- Evaluate alternatives for transactions occurring between two EIM entities to be used for outside-ISO settlements.

2.3 Display Default Proxy Commitment Cost Bids on CMRI.

Target:

- ISO will publish CMRI report for default proxy commitment cost bids (start-up, min-load, and transition costs) for all EIM and non-EIM resources. **(2017)**

Business need:

- Some EIM entities requested these information be posted by ISO.

2.4 Display Input Data of Flex Ramp Requirements on OASIS

Target:

- ISO will publish OASIS report for input data of flex ramp requirements. **(2017)**

Business need:

- Some EIM entities requested these information be posted by ISO for transparency.

3. Software Enhancements: EIM Software Enhancements

3.1 Update EIM logos on EIM GUI's

Target:

- Use generic EIM logo on all GUI's used by EIM participants. **(2017)**

Business need:

- Some EIM entities requested this enhancement.

4. ETSR: Change the ETSR Formulation to Separate the Base Energy Transfer to Distinct Non-Optimizable ETSRs

Target:

- Define separate ETSRs for base energy transfers to distinguish base and dynamic energy transfers so that EIM Entity SCs can submit base energy transfers that will not be optimized by the market, while submitting ETSR limits that would apply to dynamic energy transfers only. Changes are contained in the market optimization engine only, no other systems are affected; there are no changes to data interfaces. **(Winter 2017)**

Business need:

- Modeling enhancements.

More information can be found under Fall 2017 release on the Release Planning page at http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx.

Deployment Strategy

Deployment Schedule Overview

The system changes will be implemented in a phased manner. The systems changes will be deployed/activated according to the following drops and dates.

Description	Deployment
Settlements	October 23, 2017
Integration	October 23, 2017
SIBR/BSAP	October 24, 2017
IFM/RTN/BAAOP	October 24, 201
Master File	October 25, 2017
CMRI	October 25, 2017
OASIS	October 25, 2017

The strategy of spreading the deployment over time is in the interest of minimizing impact on resources and is consistent with deployment strategies implemented during previous major deployments. Some of these deployments will require brief outages. See *Deployment Times, Outages, and Market Participant Actions* section of this document for times and durations for each application.

The technical details for these system changes can be found on the Independent 2017 Release external site located at: http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx.

Web Services

Refer to the System Access Information document for details about specific URLs:
http://www.caiso.com/Documents/SystemAccessInformation_MarketParticipants.pdf

CMRI APIs

CMRI Interface Specification: http://www.caiso.com/Documents/CMRI-InterfaceSpecification_v3_6_2Clean_Fall2017Release.pdf

CMRI Artifacts: http://www.caiso.com/Documents/CMRI-ArtifactsPackage_v1_2_Fall2017Release.zip

Service	Project	Availability as of this Deployment
RetrieveDailyElectricityPriceIndex		
RetrieveDailyElectricityPriceIndex_CMRIv1_AP	BRE-B	New
RetrieveDailyElectricityPriceIndex_CMRIv1_DocAttach_AP		
RetrieveExternalDefaultCommitmentCost		
RetrieveExternalDefaultCommitmentCost_CMRIv1_AP	EIM 2017	New
RetrieveExternalDefaultCommitmentCost_CMRIv1_DocAttach_AP		
RetrieveGasBurnResourceData		
RetrieveGasBurnResourceData_CMRIv1_AP	Gas Burn	New
RetrieveGasBurnResourceData_CMRIv1_DocAttach_AP		
RetrieveGasBurnSummaryData		
RetrieveGasBurnSummaryData_CMRIv1_AP	Gas Burn	New
RetrieveGasBurnSummaryData_CMRIv1_DocAttach_AP		
RetrieveEIMEntityMarketBaseSchedules		
RetrieveEIMEntityMarketBaseSchedules_CMRIv1_AP	Enhancement	Modification
RetrieveEIMEntityMarketBaseSchedules_CMRIv1_DocAttach_AP		
RetrieveMarketBaseSchedules		
RetrieveMarketBaseSchedules_CMRIv1_AP	Enhancement	Modification
RetrieveMarketBaseSchedules_CMRIv1_DocAttach_AP		

OASIS APIs

OASIS Interface Specification: http://www.caiso.com/Documents/OASIS-InterfaceSpecification_v5_1_1Clean_Fall2017Release.pdf

OASIS Artifacts: http://www.caiso.com/Documents/OASIS-ArtifactsPackage_v1_2_Fall2017Release.zip

Service	Project	Availability as of this Deployment
ENE_EIM_FLEX_RAMP_INPUT	EIM 2017	New
Control Area Generating Capability List	Gas Burn	New

Deployment and Activation Timeline

The Independent 2017 Release is scheduled for deployment across multiple dates. Each deployment may incur outages of varying lengths to specific systems. The table below highlights the systems that will be impacted by each deployment and provides relevant details for market participants.

Deployment Timeline

Date	Deployment Information	Status
06/01/2017	Communicate System Access Information Document	Complete
10/10/2017	Revise System Access Information Document	On-Track
10/10/2017	Communicate Deployment Plan	On-Track
10/23/2017	Settlements	On-Track
10/23/2017	Integration	On-Track
10/24/2017	SIBR/BSAP	On-Track
10/24/2017	IFM/RTN/BAAOP	On-Track
10/25/2017	Master File	On-Track
10/25/2017	CMRI	On-Track
10/25/2017	OASIS	On-Track

Deployment Times, Outages, and Market Participant Actions

Pre-Deployment

System	Deployment Time	Outage	MP Action
Communicate System Access Information	06/01/2017	N/A	Review System Access Information document.
Revise System Access Information	10/10/2017	N/A	Review System Access Information document.
Communicate Deployment Plan	10/10/2017	N/A	Review Deployment Plan.
MF - Preparation for Data Freeze	Prior to 10/20/2017	N/A	MF data changes submitted via the MF UI or API will be frozen for 10/23/2017-10/27/2017. Submit any changes via the MF UI or API for effective date of 10/31/2017 or sooner. Effective dates after 11/01/2017 will not be accepted.
MF - Black-Out Period	10/23/2017-10/27/2017	N/A	Submit any changes via the MF UI or API for effective date of 10/31/2017 or sooner.

All times are Pacific

Master File Data Freeze – October 20, 2017

System	Deployment Time	Outage	MP Action
Master File Data Freeze Starts	12:00 AM	N/A	Prior to 10/20/2017, submit any changes via the MF UI or API for effective date of 10/31/2017 or sooner. Effective dates after 11/01/2017 will not be accepted.

All times are Pacific

Settlements Deployment – October 23, 2017

System	Deployment Time	Outage	MP Action
Settlements	9:00 AM to 10:00 AM	No outage anticipated	N/A

All times are Pacific

Integration – October 23, 2017

System	Deployment Time	Outage	MP Action
Integration	2:00 PM to 3:00 PM	Brief interruption for Web Services (API)	N/A

All times are Pacific

SIBR/BSAP – October 24, 2017

System	Deployment Time	Outage	MP Action
SIBR/BSAP	2:00 PM to 3:00 PM	Brief interruption for SIBR/BSAP UI/API	None

All times are Pacific

IFM/RTN/BAAOP – October 24, 2017

System	Deployment Time	Outage	MP Action
IFM/RTN/BAAOP	2:00 PM to 3:00 PM	Brief interruption for BAAOP UI/API	None

All times are Pacific

Master File – October 25, 2017

System	Deployment Time	Outage	MP Action
Master File	10:00 AM to 4:00 PM	Brief interruption for Master File UI/API from 3:00 PM to 4:00 PM	None

All times are Pacific

CMRI – October 25, 2017

System	Deployment Time	Outage	MP Action
CMRI	3:00 PM to 4:00 PM	Brief interruption for CMRI UI/API	N/A

All times are Pacific

OASIS – October 25, 2017

System	Deployment Time	Outage	MP Action
OASIS	3:00 PM to 4:00 PM	Brief interruption for OASIS UI/API	N/A

All times are Pacific

Communication and Support

Below is the Independent 2017 Release communication schedule:

Description	Method	Frequency	Responsible
Independent 2017 Release Deployment Market Notice	E-mail www.caiso.com	As Needed	ISO
Release Users Group (RUG)	(866) 528-2256 5251941	Every Other Week	ISO

Market Notices

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Routine Issues and Support

All normal support processes should be followed for support functions. The ISO Help Desk can be reached at (916) 351-2309.