



Bidding Rules Enhancement Part B (BREB)

2017 Independent Release

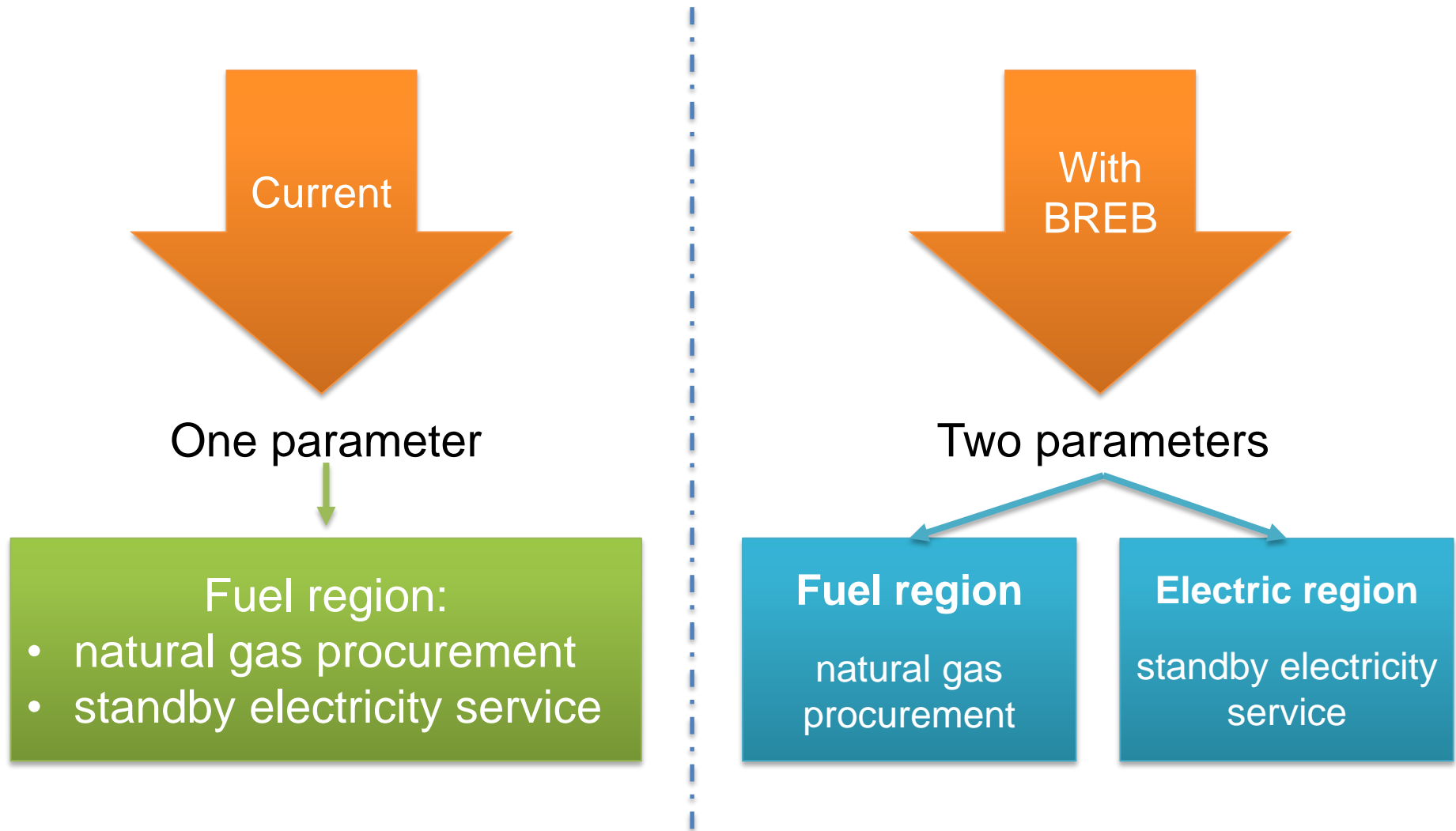
Objectives

- Identify new fuel region and electric region designations to be updated in Master File
- Using CIDI:
 - request assignment of a fuel region and electric region to a resource
 - submit evidence to validate the fuel region and electric region for each resource
- As needed, request the creation of a new fuel region or electric region to accurately reflect geographically appropriate, resource specific costs
- View report changes in CMRI and OASIS

Bidding rules enhancement part B (BREB)

- The purpose of this initiative is to:
 - refine and improve parameters used in commitment costs and in default energy bids
 - allow for custom fuel regions that accurately reflect natural gas procurement

Bidding rules enhancement part B (BREB) overview



FUEL REGIONS

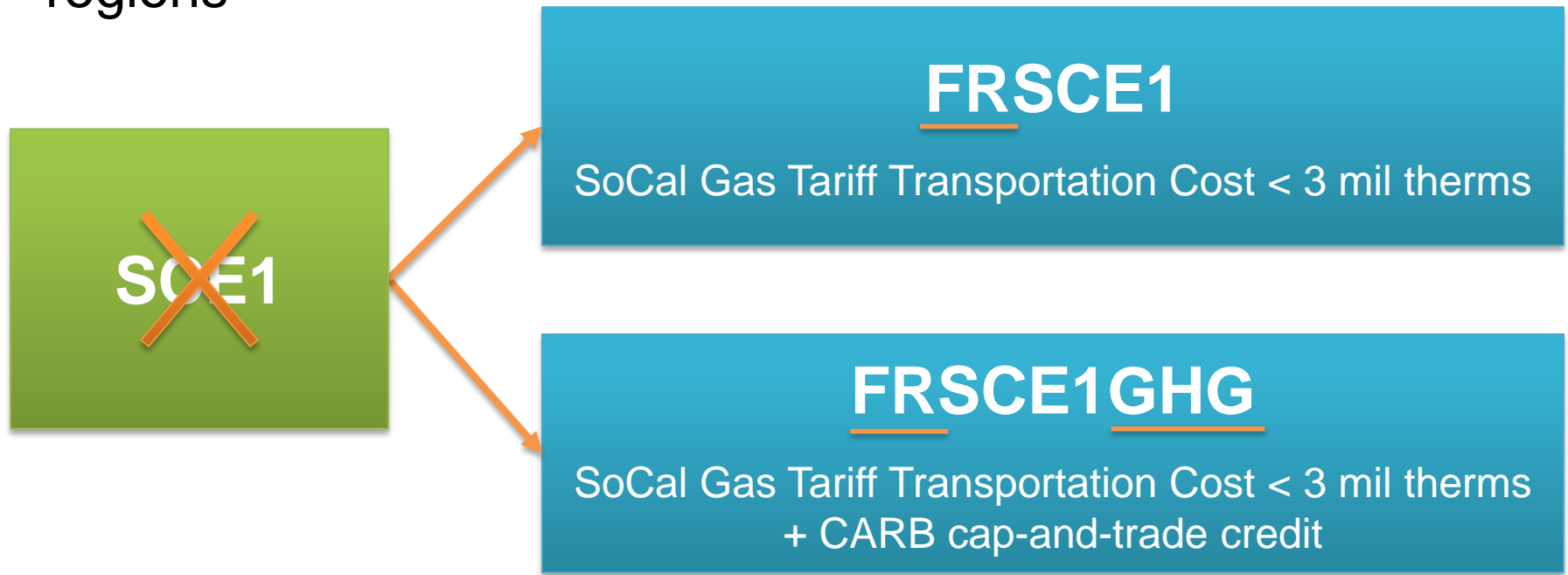
Fuel region composition

The daily fuel region price is composed of:

- Natural Gas Pricing Hub Index (\$/MMBtu)
- Marginal Transportation Rates (\$/MMBtu)
- Cap-and-trade credits to the base natural gas transportation rate
- Fuel Reimbursement Rate adjustments to the base natural gas transportation rate
- Miscellaneous costs including taxes

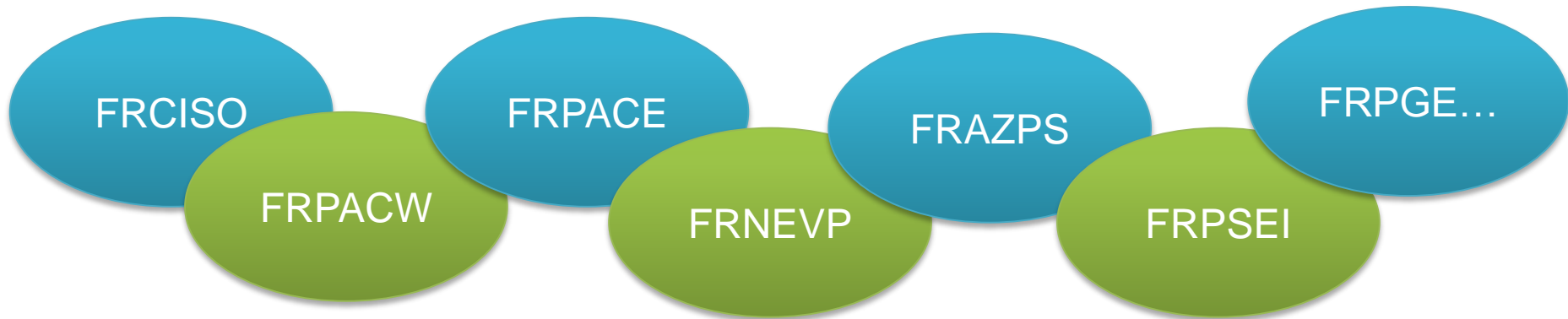
How fuel region names will change for resources

- All fuel regions will start with the prefix “**FR**” and include a “**GHG**” option
- Example: current fuel region SCE1 will become 2 fuel regions



BAA aggregated fuel region names

- In addition to specific fuel regions, there will also be aggregated **BAA-regional fuel regions** which are set daily by the **minimum of all fuel region prices** within that BAA
- These aggregated BAA fuel region names are shown below:



List of approved fuel regions:

http://www.caiso.com/Documents/FuelRegion_ElectricRegionDefinitions.xlsx

Fuel Prices Report on OASIS

California ISO OASIS

ATLAS REFERENCE REPORT DEFINITION PRICES TRANSMISSION SYSTEM DEMAND

Date From: 08/25/2017 To: 08/25/2017 Fuel Region Id: [ALL]

Download XML Download CSV

Fuel Prices

Opr Date	Fuel Region	HE01	HE02	HE03	HE04
08/25/2017	FRAZPS	2.95000	2.95000	2.95000	2.95000
08/25/2017	FRCISO	2.90000	2.90000	2.90000	2.90000
08/25/2017	FREP B1	3.02000	3.02000	3.02000	3.02000
08/25/2017	FREP B2	2.96000	2.96000	2.96000	2.96000
08/25/2017	FREP B3	2.95000	2.95000	2.95000	2.95000
08/25/2017	FREPP1	3.00000	3.00000	3.00000	3.00000
08/25/2017	FREPP2	2.98000	2.98000	2.98000	2.98000
08/25/2017	FREPP3	3.01000	3.01000	3.01000	3.01000
08/25/2017	FRKERN	2.90000	2.90000	2.90000	2.90000
08/25/2017	FRKERNGHG	2.90000	2.90000	2.90000	2.90000
08/25/2017	FRKNG1	2.56000	2.56000	2.56000	2.56000
08/25/2017	FRKRNU	2.90000	2.90000	2.90000	2.90000
08/25/2017	FRKRV	2.90000	2.90000	2.90000	2.90000

October 31st will be the last day you will see fuel regions without "FR" or "FR____GHG" identifiers

<http://www.caiso.com/Documents/BusinessRequirementsSpecification-BiddingRulesEnhancements-GeneratorCommitmentCostImprovements.pdf>

FRCISO

FRCISOGHG

So what do you need to do?



Submit a CIDI ticket

- Scheduling Coordinators **must** submit a CIDI ticket with **evidence** of their fuel regions by November 17th
- Resources that **do not** submit evidence to support a fuel region by November 17th will be set to the aggregated BAA default fuel regions on December 1st

Most recent invoice!



How to designate your CIDI submission for fuel regions



Select the **Production** environment

Select the correct option below to add to the subject line:

- **Assign a resource to a Gas Price Index Fuel Region**
- **Establish a Gas Price Index Fuel Region**

ELECTRIC REGIONS

Electric region names – new field

- All electric regions will start with the prefix “**ER**”
- Example:
 - **CURRENTLY**: fuel region SCE1 is used to define an electric region as SCE standby service
 - **FUTURE**: electric regions will have their own designation



List of approved fuel regions:

http://www.caiso.com/Documents/FuelRegion_ElectricRegionDefinitions.xlsx

Electric region as of November 1st

- Each resource will default to a wholesale electric region where the wholesale electricity price index for a resource is calculated as follows:
$$\text{Wholesale EPI} = (\text{Forward Monthly Gas Price}^* + \text{Total Transportation Cost} + \text{Miscellaneous Tax-based Cost} + \text{Miscellaneous Non Tax-based Cost}) * 10$$
- A resource that pays a retail electricity price for its auxiliary power can submit a request to establish a retail electric region **OR** request an assignment to one of the currently implemented retail electric regions

**Forward monthly gas price is the average of the closing gas prices for the gas delivery points for trading days that existed typically 2 days before the end of the current calendar month, for delivery in the next calendar month*

Redesigned Electricity Price Index CMRI report

The screenshot shows the California ISO Customer Market Results Interface. The 'Default Bids' menu is open, listing various bid curves and costs. The 'Daily Electricity Price Index (EPI)' option is circled in orange. The interface also shows a 'Day-Ahead Ancillary Serv' section with a 'No Data found' message and a 'Report Generated' timestamp of 08/25/2017 15:26:46.

California ISO Customer Market Results Interface

Day-Ahead Real-Time Post-Market **Default Bids** Convergence Bidding Forecast Transmission Constraints Intertie Flow Information Reference LSE Energy Imbalance

Start Date: 08/25/2017 Entity: Entity:
End Date: 08/25/2017 Product: Product:

Day-Ahead Ancillary Serv

Trade Date SC ID Resource

No Data found

Report Generated: 08/25/2017 15:26:46

- Default Energy Bid Curves
- Default RMR Minimum Load and Startup Cost Bid Curves
- Greenhouse Gas Bid Cap
- Electricity Price Index
- Default Commitment Costs
- Daily Electricity Price Index (EPI)**
- Actual Limitation values
- Resource Opportunity Costs

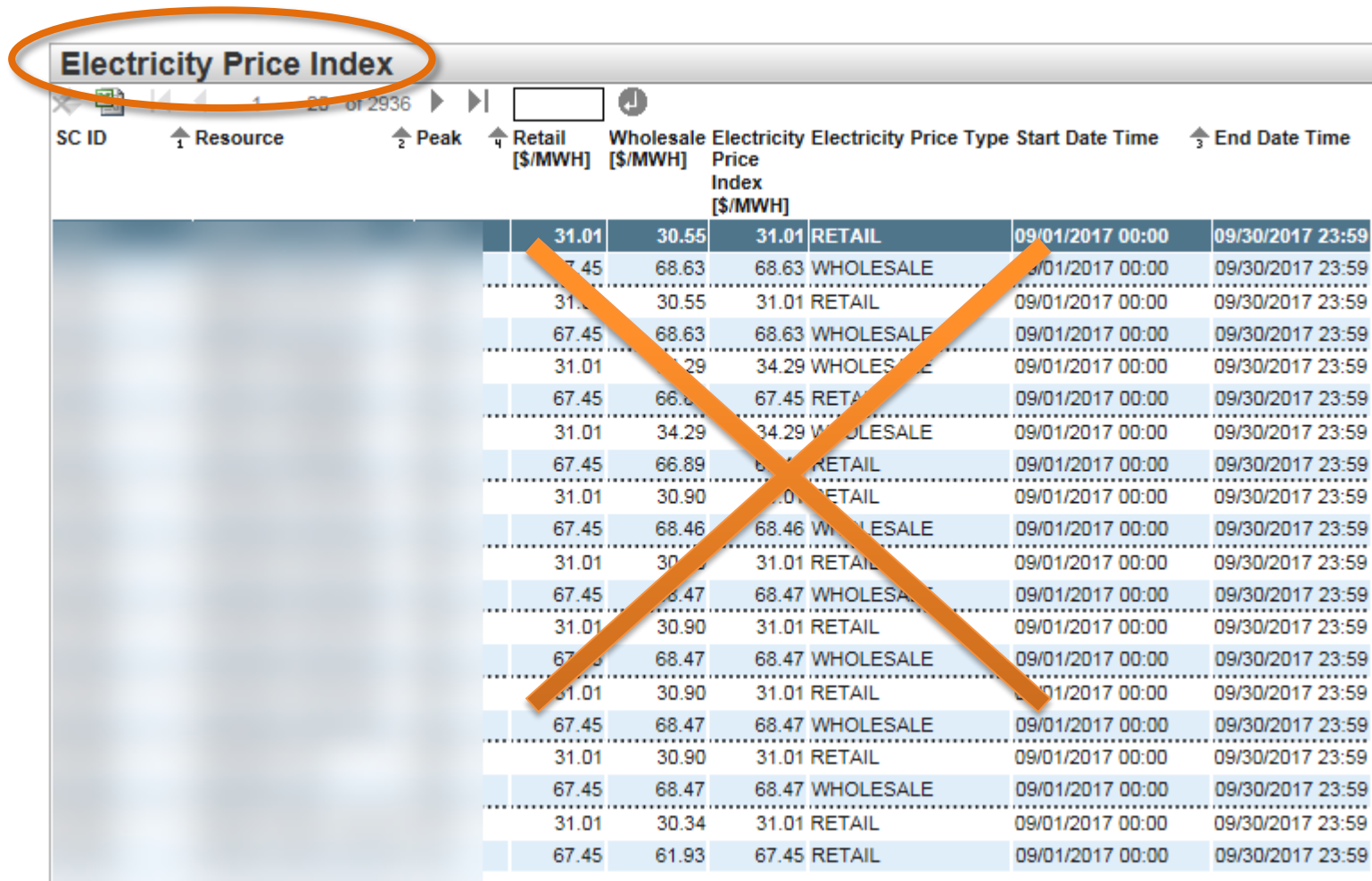
Schedule Type: [ALL] Apply Reset

Schedule HE01 HE02 HE03 HE04 HE05 HE06 HE07 HE08 HE09 HE10 HE11 HE12 HE13
[MW] [MW] [MW] [MW] [MW] [MW] [MW] [MW] [MW] [MW] [MW] [MW] [MW]

Published daily

Resource specific EPIs used in Day-Ahead and Real-Time Markets

Existing “Electricity Price Index” report which has monthly EPIs will no longer be populated following this project activation



SC ID	Resource	Peak	Retail Price [\$/MWH]	Wholesale Price [\$/MWH]	Electricity Price Index [\$/MWH]	Price Type	Start Date Time	End Date Time
			31.01	30.55	31.01	RETAIL	09/01/2017 00:00	09/30/2017 23:59
			67.45	68.63	68.63	WHOLESALE	09/01/2017 00:00	09/30/2017 23:59
			31.01	30.55	31.01	RETAIL	09/01/2017 00:00	09/30/2017 23:59
			67.45	68.63	68.63	WHOLESALE	09/01/2017 00:00	09/30/2017 23:59
			31.01	34.29	34.29	WHOLESALE	09/01/2017 00:00	09/30/2017 23:59
			67.45	66.89	67.45	RETAIL	09/01/2017 00:00	09/30/2017 23:59
			31.01	34.29	34.29	WHOLESALE	09/01/2017 00:00	09/30/2017 23:59
			67.45	66.89	67.45	RETAIL	09/01/2017 00:00	09/30/2017 23:59
			31.01	30.90	31.01	RETAIL	09/01/2017 00:00	09/30/2017 23:59
			67.45	68.46	68.46	WHOLESALE	09/01/2017 00:00	09/30/2017 23:59
			31.01	30.90	31.01	RETAIL	09/01/2017 00:00	09/30/2017 23:59
			67.45	68.47	68.47	WHOLESALE	09/01/2017 00:00	09/30/2017 23:59
			31.01	30.90	31.01	RETAIL	09/01/2017 00:00	09/30/2017 23:59
			67.45	68.47	68.47	WHOLESALE	09/01/2017 00:00	09/30/2017 23:59
			31.01	30.90	31.01	RETAIL	09/01/2017 00:00	09/30/2017 23:59
			67.45	68.47	68.47	WHOLESALE	09/01/2017 00:00	09/30/2017 23:59
			31.01	30.34	31.01	RETAIL	09/01/2017 00:00	09/30/2017 23:59
			67.45	61.93	67.45	RETAIL	09/01/2017 00:00	09/30/2017 23:59

Redesigned Electricity Price Index CMRI report

California ISO Customer Market Results Interface

Day-Ahead Real-Time Post-Market Default Bids Convergence Bidding Forecast Transmission Constraints Intertie Flow Information Reference LSE Energy Imbalance Market


Start Date: 08/25/2017 Entity: [ALL] Resource: [Apply] [Reset]
End Date: 08/25/2017 Market: [ALL]

Daily Electricity Price Index (EPI)

3541 - 3556 of 3556

Trade Date	SC ID	Resource	Market	EPI Type	EPI [\$/MWH]
08/25/2017			DAM	WHOLESALE	28.45
08/25/2017			RTM	WHOLESALE	28.45
08/25/2017			DAM	WHOLESALE	28.45
08/25/2017			RTM	WHOLESALE	28.45
08/25/2017			DAM	WHOLESALE	28.45
08/25/2017			RTM	WHOLESALE	28.45
08/25/2017			DAM	WHOLESALE	28.45
08/25/2017			RTM	WHOLESALE	28.45
08/25/2017			DAM	RETAIL	0.00
08/25/2017			RTM	RETAIL	0.00
08/25/2017			DAM	RETAIL	0.00
08/25/2017			RTM	RETAIL	0.00
08/25/2017			DAM	RETAIL	0.00
08/25/2017			RTM	RETAIL	0.00
08/25/2017			DAM	RETAIL	0.00
08/25/2017			RTM	RETAIL	0.00

Report Generated: 08/25/2017 15:55:50



What you will see in the new report

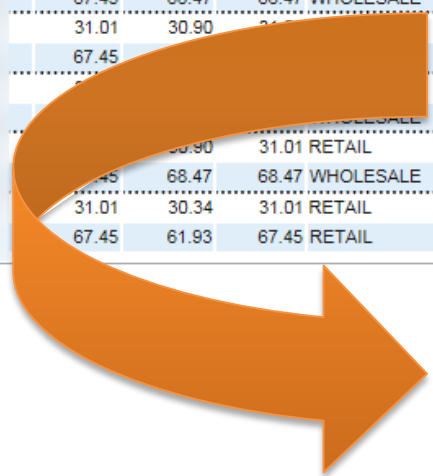
Redesigned Electricity Price Index CMRI report

Electricity Price Index

1 - 20 of 292

SC ID	Resource	Peak	Retail Price [\$/MWH]	Wholesale Price [\$/MWH]	Electricity Price Index [\$/MWH]	Electricity Price Type	Start Date Time	End Date Time
			31.01	30.55	31.01	RETAIL	09/01/2017 00:00	09/30/2017 23:59
			67.45	68.63	68.63	WHOLESALE	09/01/2017 00:00	09/30/2017 23:59
			31.01	30.55	31.01	RETAIL		
			67.45	68.63	68.63	WHOLESALE		
			31.01	34.29	34.29	WHOLESALE		
			67.45	66.89	67.45	RETAIL		
			31.01	34.29	34.29	WHOLESALE		
			67.45	66.89	67.45	RETAIL		
			31.01	30.90	31.01	RETAIL		
			67.45	68.46	68.46	WHOLESALE		
			31.01	30.90	31.01	RETAIL		
			67.45	68.47	68.47	WHOLESALE		
			31.01	30.90				
			67.45					
				30.90	31.01	RETAIL		
			67.45	68.47	68.47	WHOLESALE		
			31.01	30.34	31.01	RETAIL		
			67.45	61.93	67.45	RETAIL		

OLD



Daily Electricity Price Index (EPI)

2541 - 2550 of 2550

Trade Date	SC ID	Resource	Market	EPI Type	EPI [\$/MWH]
08/25/2017			DAM	WHOLESALE	28.45
08/25/2017			RTM	WHOLESALE	28.45
08/25/2017			DAM	WHOLESALE	28.45
08/25/2017			RTM	WHOLESALE	28.45
08/25/2017			DAM	WHOLESALE	28.45
08/25/2017			RTM	WHOLESALE	28.45
08/25/2017			DAM	WHOLESALE	28.45
08/25/2017			RTM	WHOLESALE	28.45
08/25/2017			DAM	RETAIL	0.00
08/25/2017			RTM	RETAIL	0.00
08/25/2017			DAM	RETAIL	0.00
08/25/2017			RTM	RETAIL	0.00
08/25/2017			DAM	RETAIL	0.00
08/25/2017			RTM	RETAIL	0.00
08/25/2017			DAM	RETAIL	0.00
08/25/2017			RTM	RETAIL	0.00

NEW

So what do you need to
do to request a retail
electric region?



Submit a CIDI ticket

- Scheduling Coordinators **may** submit a CIDI ticket with **evidence** of their retail electric region by November 17th
- Resources that **do not** submit evidence to support a retail electric region by November 17th will remain assigned to their wholesale electric region on December 1st

Most recent invoice!



How to designate your CIDI submission for electric region



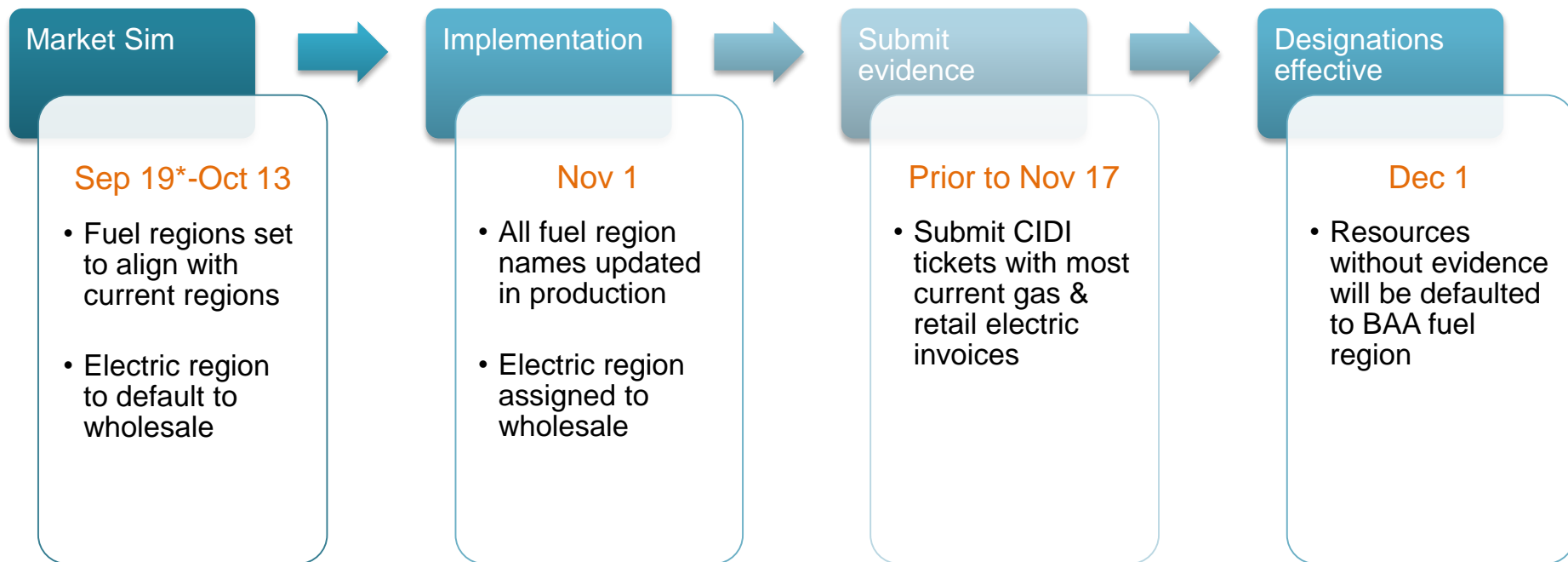
Select the **Production** environment

Select the correct option below to add to the subject line:

- **Assign resource to a Retail Electric Region**
- **Establish a Retail Electric Region**

IMPLEMENTATION TIMELINE

Timeline



*market simulation dates are subject to change and will be communicated via market simulation update calls and via the market simulation portal

REQUESTING NEW REGIONS

The process to request creation of new fuel region

- The following is required to establish a new fuel region:
 - Natural Gas Pricing Hub
 - Transportation Rates publication:
 - *Transportation rates found on the gas companies' electric generation schedules and/or pipeline company pricing tariff schedule*
 - *Include links and location of the specific schedule*
 - Evidence that base natural gas transportation rate includes cap-and-trade credits
 - Identification of any:
 - *fuel reimbursement or shrinkage allowances*
 - *additional miscellaneous costs including taxes*
 - *Include links and the specific schedule*

<https://bpmcm.caiso.com/Pages/default.aspx>



Create a new Electric Region

- New process allows for SCs to request the creation of a new Electric Region



<https://bpmcm.caiso.com/Pages/default.aspx>

- SCs can submit a request to establish a new retail electric region for use in the EPI
 - The following items are required:
 - Service schedule from a retail electricity service provider
 - Include links and the specific schedule*

What questions do you have?





For more information, please visit our website at:

www.caiso.com

Or email questions to:

CustomerTraining@caiso.com

Thank you for your participation!!

You can find this presentation on our California ISO website on our 'Training' page under the 'Participate' tab

<http://www.caiso.com/participate/Pages/Training/default.aspx>