



Customer Market Results Interface (CMRI) Report Overview

Version 2.22.1
February 25, 2015

Contents

Disclaimer	4
Revision History	5
1. Introduction	6
1.1. Purpose	6
1.2. Scope	6
1.3. Exclusions	6
1.4. Data Retention	6
1.5. References	6
2. Reports	7
2.1. Day-Ahead Generation Market Results	10
2.2. Day-Ahead Demand Market Results	11
2.3. Day-Ahead Residual Unit Commitment (RUC) Capacity	12
2.4. Day-Ahead Import-Export Schedules	13
2.5. Day-Ahead Instructions	14
2.6. Day-Ahead Ancillary Service Market Results	15
2.7. Day-Ahead Market Power Mitigation (MPM) Results	15
2.8. Real-Time Market Power Mitigation (MPM) Results	17
2.9. Default Energy Bid Curves	18
2.10. Day-Ahead Generation Commodity Prices	19
2.11. Day-Ahead Demand Commodity Prices	20
2.12. Hour-Ahead Scheduling Process (HASP) Schedules	21
2.13. Hour-Ahead Scheduling Process (HASP) Schedule Prices	22
2.14. Day-Ahead Finally Qualified Load Following Capacity	23
2.15. Day-Ahead Unit Commitments	24
2.16. Default RMR Minimum Load & Startup Cost Bid Curves	25
2.17. Day-Ahead Import-Export Commodity Prices	26
2.18. Extremely Long Start Resource Instructions	27
2.19. Day-Ahead Reliability Must Run (RMR) Dispatches	28
2.20. Expected Energy Allocation	29
2.21. Conformed Dispatch Notice (CDN)	30
2.22. Expected Energy	31
2.23. ISO Commitment Cost Details	32
2.24. CRN	33
3. Transmission Constraints Enforcement Reports	35
3.1. Flowgate Constraints	36
3.2. Transmission Corridor Constraints	37
3.3. Nomogram Constraint Enforcements	38

3.4.	Nomogram Constraint Definitions	39
3.5.	Transmission Contingencies	40
4.	Convergence Bidding Reports	41
4.1.	Day- Ahead Convergence Bidding Awards	42
4.2.	Hourly Prices due to Convergence Bidding for CRR Adjustment	43
4.3.	Binding Transmission Constraints due to Convergence Bidding for CRR Adjustment	44
4.4.	Flow Impact due to Convergence Bidding for CRR Adjustment	45


 California ISO <small>Shaping a Renewed Future</small>	CUSTOMER MARKET RESULTS INTERFACE	Version 2.21.1
	(CMRI)	02/25/2015

Disclaimer

This document reflects the current direction with respect to the different types of information that would be made available from the CAISO to external entities. The CAISO will continue to evaluate the necessary changes to be made based on usability enhancements or program direction. As such changes are implemented, the associated reporting functionality will be described in more details or possibly removed, in future versions of this document, as appropriate. Moreover, this document will continue to evolve to reflect any policy or implementation changes pursuant to further review by the CAISO stakeholders, its regulators, and its own experts.

Revision History

Date	Version	Description
02/25/2015	2.21.1	Updated logo, changed "CAISO" to "Customer" as appropriate, removed irrelevant document sections

 California ISO <small>Shaping a Renewed Future</small>	CUSTOMER MARKET RESULTS INTERFACE	Version 2.21.1
	(CMRI)	02/25/2015

1. Introduction

1.1. Purpose

The purpose of this document is to detail the pre-defined set of reports that will be accessible from the CAISO to the Scheduling Coordinators, resulting from the CAISO Market Processes.

1.2. Scope

The set of reports contained and illustrated in this document will **not** cover **all** types of information that CAISO will disseminate or make available to external entities. Rather, this artifact will only address specific reports that will be immediately available, after the Day-Ahead and/or Real-Time Market runs.

1.3. Exclusions

Reports or information that will be accessed from other CAISO major systems such as the following will **not** be discussed in this document. Each of these systems will have its respective informational-typed manuals.

- Open Access Same Time Information System (OASIS)
These include final location level prices (LMP), Regional Ancillary Service Requirements, etc.
- Settlements and Market Clearing System (SaMC)
These include charge types, statements, invoices, settlement-quality prices, etc.
- Automatic Dispatch System (ADS)
These include Dispatch Instructions, Real-Time Ancillary Services Awards, Short Start Unit commitments, etc.
- Scheduling Infrastructure Business Rules (SIBR)
These include Bid-related information, Inter-SC Trades, etc.

1.4. Data Retention

- All Market Result data will be maintained in the CMRI system until T+90 Business Days, except for the Conformed Dispatch Notice (CDN) data, which will be maintained for three years.

1.5. References


To further understand the context of the contents in this document, please refer to the BPM manuals posted on www.caiso.com.

2. Reports

The following is a summarized list of the various reports available for online viewing:

	Title	Contents
2.1	Day-Ahead Generation Market Results	Day-Ahead Energy Schedules, Ancillary Services Awards, Load Following and RUC Capacity for Generating Units
2.2	Day-Ahead Demand Market Results	Day-Ahead Energy Schedules and Ancillary Services Awards of Participating Loads; and Day-Ahead Energy Schedules for Non-Participating Loads
2.3	Day-Ahead Residual Unit Commitment (RUC) Capacity	RUC Capacity and RUC Awards from the Residual Unit Commitment process
2.4	Day-Ahead Import-Export Schedules	Day-Ahead Energy Schedules and Ancillary Services Awards at Intertie Scheduling Points
2.5	Day-Ahead Instructions	Binding Startup or Transition instructions resulting from the RUC process
2.6	Day-Ahead Ancillary Service Market Results	Resource-specific Ancillary Service Awards resulting from the Integrated Forward Market run
2.7	Day-Ahead Market Power Mitigation (MPM) Results	Segments of the “new” or mitigated bid as a result of the Day-Ahead Market Power Mitigation Process
2.8	Real-Time Market Power Mitigation (MPM) Results	Segments of the “new” or mitigated bid as a result of the Real-Time Market Power Mitigation Process
2.9	Default Energy Bid Curves	Independent entity-supplied default bid curve data used in the Market Power Mitigation process
2.10	Day-Ahead Generation Commodity Prices	Day-Ahead resource-specific prices (for Energy Schedules, Ancillary Services Awards, RUC Awards) of Generating Units
2.11	Day-Ahead Demand Commodity Prices	Day-Ahead resource-specific prices for Energy Schedules and Ancillary Services Awards of Participating Loads; and resource-specific prices for Energy Schedules of Non-Participating Loads
2.12	Hour-Ahead Scheduling Process (HASP) Schedules	HASP results for the next Trading Hour
2.13	Hour-Ahead Scheduling Process (HASP) Schedule Prices	HASP resource-specific prices for the next Trading Hour
2.14	Day-Ahead Finally Qualified Load Following Capacity	Day-Ahead Finally Qualified Load Following Up and Down Capacity for Metered Sub-System (MSS) resources
2.15	Day-Ahead Unit Commitments	Resources that are self-committed or CAISO committed by the IFM or RUC process in the Day-Ahead Market
2.16	Default RMR Minimum Load & Startup Cost Bid Curves	Independent entity-supplied default minimum load and startup cost bid curves used in the Market Power Mitigation process. This applies to RMR units only.
2.17	Day-Ahead Import-Export Commodity Prices	Day-Ahead resource-specific prices (for Energy Schedules, Ancillary Services Awards, RUC Awards) of System Resources
2.18	Extremely Long Start Resource Instructions	Binding Startup or Transition instructions resulting from the Extremely Long Start Commitment (ELC) process <i>Note: This report is not currently active.</i>
2.19	Day-Ahead Reliability Must Run (RMR) Dispatches	RMR units with either an Energy Schedule (from IFM) and/or an RMR Dispatch.
2.20	Expected Energy Allocation Details	Displays the post-market Expected Energy results from the energy accounting process. Expected Energy is the sum total of all DA and RT market awards, Exceptional Dispatches and verbal instructions, taking

Title		Contents
		into account physical limitations (SLIC), carved up into their Settlement components.
2.21	Conformed Dispatch Notice (CDN)	Summary of the Day-Ahead and Real-Time Energy Schedules, Ancillary Service Awards, RMR Dispatches, Competitive Constraint Run results of RMR resources
2.22	Expected Energy	Post-market or after-the-fact energy accounting results for settlement calculations. This report will contain the Total Expected Energy for Day Ahead, Real Time, Instructed and Total energy.
2.23	ISO Commitment Cost Details	Includes Commitment Flags and Commitment Cost to validate the Bid Cost Recovery charge in Settlements
2.24	CRN	Reports the MWh breakdown for ETC/TOR Self-Schedules for DAM and RTM, including the CRN number. Note: This report has limited functionality, and is only available in the GUI. The same results are posted to the CAISO SFTP site for downloading.
3.1	Flowgate Constraints	Displays the complete list of flowgate constraints e.g. Line, Transformer, Phase Shifter, Series Device or Transmission Corridor
3.2	Transmission Corridor Constraints	Displays the complete list of transmission corridor constraints defined in the market
3.3	Nomogram Constraint Enforcements	Displays the list of nomogram constraints that are active for the particular trading day and market, which can be either enforced or not enforced
3.4	Nomogram Constraint Definitions	Displays the complete list of defined nomogram constraints in the market
3.5	Transmission Contingencies	Displays the complete list of transmission contingencies defined in the market
4.1	Day Ahead Convergence Bidding Awards	Displays the market virtual bidding supply and demand awards that were cleared in the day-ahead market for energy
4.2	Hourly Prices due to Convergence Bidding for CRR Adjustment	Displays the hourly prices that CAISO uses to calculate Congestion Revenue Rights (CRR) adjustments due to virtual bidding.
4.3	Binding Transmission Constraints due to Convergence Bidding for CRR Adjustment Report	Displays supporting data for settlement charges imposed on scheduling coordinators, as a result of the application of the CRR settlement rule - specifically CRR flow impact on award locations for each scheduling coordinator.
4.4	Flow Impact due to Convergence Bidding for CRR Adjustment	Displays supporting data for settlement charges imposed on scheduling coordinators, as a result of the application of the CRR settlement rule – specifically CRR flow impact aggregated by Entity, where the Entity is a Convergence Bidding Entity name that coincides with a CRR Holder.

 California ISO <small>Shaping a Renewed Future</small>	CUSTOMER MARKET RESULTS INTERFACE	Version 2.21.1
	(CMRI)	02/25/2015

General Reporting Characteristics

- All of these reports will output proprietary information, wherein Scheduling Coordinators will only be allowed to view their own set of transactions over a specified trade date range. Since this involves private information, approved user security privileges should be granted to gain access to these reports.
- Each report will have its own set of input query parameters where the report to be generated can be filtered according to the user's selection criteria
- Report output will display the Trading Day and Scheduling Coordinator as the report page header
- Data on all of these reports will be displayed in a grid or table format, no graphics are shown
- All reports discussed in this document will be accessed from the main Corporate Portal under the Customer Market Results Interface application.

Report Display logic is as follows

Energy:

- If there are no Energy bids or Self-Schedules for a Resource, there will be no record in CMRI for that Resource.
- If there are Energy Bids or Self-Schedules for any hour, there will be a record that posts an LMP for that resource for all hours. Even if no MW's are awarded for any of the 24 hours, a result record will be created for all 24 hours, with a 0 MW indicator showing when there are no awards.
- If there are any awarded Bids or Self-Schedules, there will be a record that posts a value of ≥ 0 for both Market and Self for all hours.

Ancillary Services:

- If there are no Bids or Self-Schedules for an AS product, there will be no record in CMRI.
- If there are Bids or Self-Schedules for an AS product, an ASMP will be posted for that AS Product for all hours.
- For AS Self-Schedules, a null MW value will be posted for hours where a SS was not submitted.
- For AS Bids, a zero MW will be posted for hours where there are no awards.

RUC:

- If there are no bids or Self-Schedules for any product in the IFM or RUC, there will be no record in CMRI.
- If there are Bids or Self-Schedules cleared in the IFM or RUC for a resource, there will be a RUC price record in CMRI and a RUC Capacity record.
- The price can be negative, if the RUC procurement target is zero.
- The price can be zero, if the resource has RA capacity available for the RUC.
- If there is no RUC procurement for the resource, the MW value will be zero.
- If there is RUC procurement for the resource, the MW value will be > 0 .

2.1. Day-Ahead Generation Market Results

Report Description Displays Day-Ahead Energy Schedules, Ancillary Services Awards, Load Following and RUC Capacity for Generating Units

Business Trigger Completion of the Day-Ahead Market

Layout For illustrative purposes, the following is a sample listing report layout:

① Resource	② Configuration	③ Product	④ Schedule Type	⑤ Contract Type	⑥				
					HE1	HE2	HE3	HE4	... HE24
					[MW]	[MW]	[MW]	[MW]	[MW]
Resource1		Energy	Market		99.99	99.99	99.99	99.99	99.99
Resource1		Energy	Self	RMT	99.99	99.99	99.99	99.99	99.99
Resource1		Energy	Self	ETC	99.99	99.99	99.99	99.99	99.99
Resource1		Energy	Self	TOR	99.99	99.99	99.99	99.99	99.99
Resource1		A/S Spinning	Market		99.99	99.99	99.99	99.99	99.99
Resource1		A/S Non-Spinning	Market		99.99	99.99	99.99	99.99	99.99
Resource1		A/S Regulation Up	Market		99.99	99.99	99.99	99.99	99.99
Resource1		A/S Regulation Down	Market		99.99	99.99	99.99	99.99	99.99
Resource1		RUC Capacity	Market		99.99	99.99	99.99	99.99	99.99
Resource2	Resource2_1x1	Energy	Market		99.99	99.99	99.99	99.99	99.99

Listed below are the data elements contained in this report.

Attributes

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
①	Resource ^P	Unique identifier of a Generating Unit
②	Configuration	The unique identifier for a configuration of an MSG (multi-stage generator) resource.
		Type of product or service applied in the transaction.
		Examples:
③	Product ^P	<ul style="list-style-type: none"> ▪ Energy ▪ A/S Spinning ▪ A/S Non-Spinning ▪ A/S Regulation Up ▪ A/S Regulation Down ▪ RUC Capacity ▪ Load Following Up ▪ Load Following Down
④	Schedule Type ^P	Indicates whether the resource was Self-Scheduled by the SC or scheduled by the CAISO market
⑤	Contract Type ^P	Corresponds to the specific contract. <i>Note: This field will not be populated.</i>
		Hourly (PDT-based; Hour-Ending format) scheduled amount in MW unit.
⑥	HE1 ... HE24	Daylight Savings Time switch: <ul style="list-style-type: none"> ▪ Long Day HE25 column will be displayed ▪ Short Day HE03 column will be blank

2.2. Day-Ahead Demand Market Results

Report Description Lists Day-Ahead Energy Schedules and Ancillary Services Awards of Participating Loads; and Day-Ahead Energy Schedules of Non-Participating Loads

Business Trigger Completion of the Day-Ahead Market

Layout For illustrative purposes, the following is a sample listing report layout:

1	2	3	4	5	6	7		
Resource	Location	Product	Resource Type	Schedule Type	Contract Type	HE1	HE2	...HE24
						[MW]	[MW]	[MW]
Resource1	LAP1	Energy	Non-Participating Load	Market		99.99	99.99	99.99
Resource1	LAP1	Energy	Non-Participating Load	Self	ETC	99.99	99.99	99.99
Resource2	Node123	A/S Non-Spinning	Participating Load	Market		99.99	99.99	99.99
Resource3	Node223	A/S Non-Spinning	Participating Load	Self		99.99	99.99	99.99
Resource4	LAP2	Energy	Non-Participating Load	Market		99.99	99.99	99.99

Attributes Listed below are the data elements contained in this report.

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Resource ^P	Unique identifier of a load resource
2	Location ^P	Unique identifier of either the: <ul style="list-style-type: none"> ▪ Load Aggregation Point (LAP) ; or Price Node (PNode) <p>Note: This field will not be populated at this time.</p>
3	Product ^P	Type of product or service applied in the transaction. <p>Examples:</p> <ul style="list-style-type: none"> ▪ Energy ▪ A/S Non-Spinning
4	Resource Type ^P	Type of resource, either Participating or Non-Participating Load
5	Schedule Type ^P	Indicates whether the resource was Self-Scheduled by the SC or scheduled by the CAISO market
6	Contract Type ^P	Note: This field will not be populated. See report 2.24.
7	HE1 ... HE24	Hourly (PDT-based; Hour-Ending format) amount scheduled in MW unit. <p>Daylight Savings Time switch:</p> <ul style="list-style-type: none"> ▪ Long Day HE25 column will be displayed ▪ Short Day HE03 column will be blank

2.3. Day-Ahead Residual Unit Commitment (RUC) Capacity

Report Description Displays the RUC Capacity and RUC Awards resulting from the Residual Unit Commitment (RUC) Process

Business Trigger Completion of the Day-Ahead Market

Layout For illustrative purposes, the following is a sample listing report layout:

Resource	Configuration	Resource Type	Product	HE1 [MW]	HE2 [MW]	HE3 [MW]	HE4 [MW]	... HE24 [MW]
Resource1	Resource1_1x1	Generator	RUC Capacity	99.99	99.99	99.99	99.99	99.99
Resource1	Resource1_1x1	Generator	RUC Award	99.99	99.99	99.99	99.99	99.99
Resource2		Generator	RUC Capacity	99.99	99.99	99.99	99.99	99.99
Resource2		Generator	RUC Award	99.99	99.99	99.99	99.99	99.99
Resource3		Import Intertie	RUC Capacity	99.99	99.99	99.99	99.99	99.99
Resource3		Import Intertie	RUC Award	99.99	99.99	99.99	99.99	99.99

Listed below are the data elements contained in this report.

Attributes

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Resource ^P	Unique identifier of a resource
2	Configuration	The unique identifier for a configuration of an MSG (multi-stage generator) resource
3	Resource Type ^P	Type of resource, examples below: <ul style="list-style-type: none"> ▪ Generator ▪ Pump-Storage Generator ▪ Import Intertie[*] <p style="text-align: right;">[*] System Resource</p>
4	Product ^P	Classifies whether the values represent the RUC Capacity or RUC Award Hourly (PDT-based; Hour-Ending format) values of the following: <ul style="list-style-type: none"> ▪ Capacity - total RUC Capacity This is the positive difference between the RUC Schedule and the greater of the Day-Ahead Schedule and the Minimum Load level of a resource. <ul style="list-style-type: none"> ▪ Award - RUC Award portion This is the portion of the RUC Capacity from resources eligible to receive RUC Availability Payments.
5	HE1 ... HE24	Daylight Savings Time switch: <ul style="list-style-type: none"> ▪ Long Day HE25 column will be displayed ▪ Short Day HE03 column will be blank

2.4. Day-Ahead Import-Export Schedules

Report Description Lists Day-Ahead Energy Schedules, Ancillary Services Awards, and RUC Capacity of System Resources at the Intertie Scheduling Points

Business Trigger Completion of the Day-Ahead Market

Layout For illustrative purposes, the following is a sample listing report layout:

1	2	3	4	5	6	7	8			
Resource	Scheduling Point	Direction	Energy Type	Product	Schedule Type	Contract Type	HE1	HE2	HE4	...HE24
							[MW]	[MW]	[MW]	[MW]
Resource1	Point1	Import	Firm Energy	Energy	Market		99.99	99.99	99.99	99.99
Resource2	Point2	Import	Firm Energy	RUC Capacity	Market		99.99	99.99	99.99	99.99
Resource3	Point2	Import	Non-Firm Energy	Energy	Market		99.99	99.99	99.99	99.99
Resource4	Point2	Import	Dynamic Interchange	A/S Spinning	Market		99.99	99.99	99.99	99.99
Resource5	Point2	Import	Dynamic Interchange	A/S Non-Spinning	Market		99.99	99.99	99.99	99.99
Resource6	Point3	Export	Firm Energy	Energy	Self	ETC	99.99	99.99	99.99	99.99
Resource7	Point4	Export	Firm Energy	Energy	Self	TOB	99.99	99.99	99.99	99.99

Listed below are the data elements contained in this report.

Attributes

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Resource ^P	Unique identifier of the System Resource
2	Scheduling Point ^P	Unique identifier of the Scheduling Point <i>Note: This field will not be populated.</i>
3	Direction ^P	Flow of energy/capacity in or out the CAISO Control Area: Import or Export
4	Energy Type ^P	Indicates if the resource is: Firm Energy, Non-Firm Energy, Dynamic Interchange, Wheeling, Unit Contingent
		Type of product or service applied in the transaction.
5	Product ^P	Examples: <ul style="list-style-type: none"> ▪ Energy ▪ A/S Non-Spinning ▪ A/S Spinning ▪ RUC Capacity
6	Schedule Type ^P	Indicates whether the resource was Self-Scheduled by the SC or scheduled by the CAISO market
		Corresponds to the specific contract, examples below:
7	Contract Type ^P	<i>Note: This field will not be populated. See report 2.24.</i> <ul style="list-style-type: none"> ▪ ETC (Existing Transmission Contract) ▪ PT (Price Taker) ▪ BASE ▪ CVR (Converted Rights) ▪ LPT (Lower Price Taker) * ▪ LOFF (Lay-off)
		Hourly (PDT-based; Hour-Ending format) scheduled amount in MW unit.
8	HE1 ... HE24	Daylight Savings Time switch: <ul style="list-style-type: none"> ▪ Long Day HE25 column will be displayed ▪ Short Day HE03 column will be blank

2.5. Day-Ahead Instructions

Report Description	Lists resources with a Start-Up and Transition instructions from the RUC process of the DAM. NOTE: All Start-Up instructions published from CMRI are binding.
Business Trigger	Completion of the Day-Ahead Market
Layout	For illustrative purposes, the following is a sample listing report layout:

Resource	Configuration		Resource Type	Instruction				Binding	Instruction Cost
	From	To		Source	Type	Start Time	End Time		
Resource1			Generator	RUC	Startup	mm/dd/yyyy hh:mm:ss AM		Yes	99.99
Resource2			Generator	RUC	Startup	mm/dd/yyyy hh:mm:ss AM		Yes	99.99
Resource3			Generator	RUC	Startup	mm/dd/yyyy hh:mm:ss AM		Yes	99.99
Resource4			Generator	RUC	Startup	mm/dd/yyyy hh:mm:ss AM		Yes	99.99
Resource5		Resource5_1x1	Generator	RUC	Startup	mm/dd/yyyy hh:mm:ss AM		Yes	99.99
Resource6	Resource6_1x1	Resource6_2x1	Generator	RUC	Transition	mm/dd/yyyy hh:mm:ss AM	mm/dd/yyyy hh:mm:ss AM	Yes	99.99

Attributes	<p>Listed below are the data elements contained in this report.</p> <p>P = denotes a user input report parameter</p> <p>G = denotes a report group section attribute; displayed as a page header</p>
-------------------	--

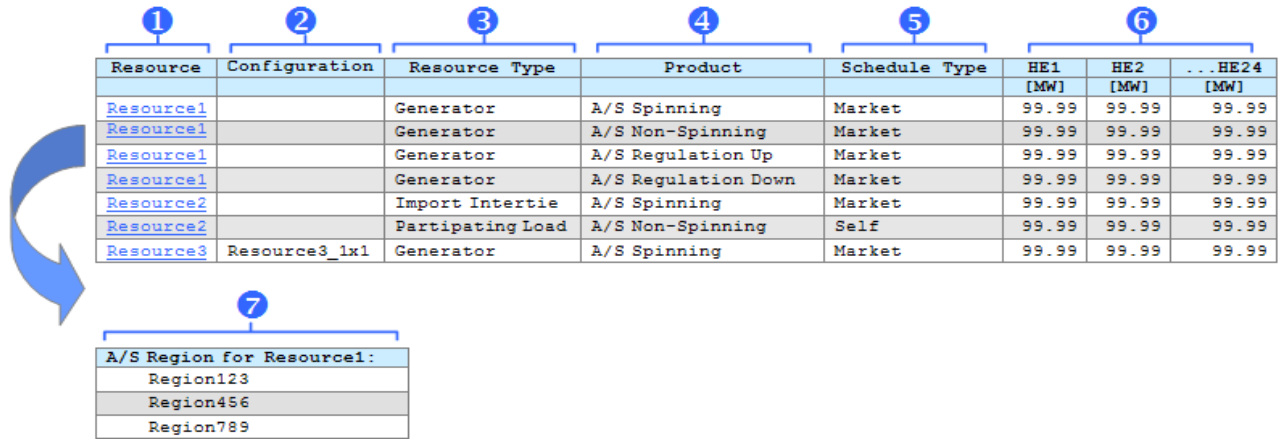
#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Resource ^P	Unique identifier of a resource
2	Configuration - From	This element represents the starting configuration identifier of the transition for MSG (multi-stage generator) resources. This element will be populated when the InstructionType of the record is a "Transition"; otherwise it will be Null.
	Configuration - To	If the Instruction Type is <i>Startup</i> , this represents the ID of the MSG resource. If the Instruction Type is <i>Transition</i> , this represents the ending configuration identifier of the MSG resource.
3	Resource Type ^P	Type of resource, examples below: <ul style="list-style-type: none"> ▪ Generator ▪ Pump-Storage Generator ▪ Import Intertie
	Instruction Source	Indicates the market process that created this instruction. Note: CMRI will publish the startup instructions from the "RUC" process, on this report.
	Instruction Type	Indicates whether the instruction is a Startup or Transition.
	Start Time	If instruction Type = 'Startup', datetime on when the unit should be completely online, i.e. expected to be at the Minimum Load Level.
	End Time	If instruction Type = 'Transition', datetime on when the when the multi-stage generator (MSG) unit should start its transitioning process.
4	Binding	If instruction Type = 'Startup', then this element's data value is NULL; If instruction Type = 'Transition', then this element is the (end) date and time, in California Prevailing Time, when the multi-stage generator (MSG) unit should complete its transitioning process.
	Instruction Cost	Indicator whether the instruction is binding or not. <i>Note: CMRI will publish the binding startup instructions, and flag will always be "Yes".</i> Cost of either the Startup or Transition instruction, in \$ dollar unit

2.6. Day-Ahead Ancillary Service Market Results

Report Description Displays resource-specific awarded quantities of all resources and its Ancillary Services Regions, resulting from the Integrated Forward Market

Business Trigger Completion of the Day-Ahead Market

Layout For illustrative purposes, the following is a sample listing report layout:



1	2	3	4	5	6		
Resource	Configuration	Resource Type	Product	Schedule Type	HE1 [MW]	HE2 [MW]	... HE24 [MW]
Resource1		Generator	A/S Spinning	Market	99.99	99.99	99.99
Resource1		Generator	A/S Non-Spinning	Market	99.99	99.99	99.99
Resource1		Generator	A/S Regulation Up	Market	99.99	99.99	99.99
Resource1		Generator	A/S Regulation Down	Market	99.99	99.99	99.99
Resource2		Import Intertie	A/S Spinning	Market	99.99	99.99	99.99
Resource2		Participating Load	A/S Non-Spinning	Self	99.99	99.99	99.99
Resource3	Resource3_lx1	Generator	A/S Spinning	Market	99.99	99.99	99.99

7
A/S Region for Resource1:
Region123
Region456
Region789

Attributes Listed below are the data elements contained in this report.

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Resource ^P	Unique identifier of a resource
2	Configuration	The unique identifier for a configuration of an MSG (multi-stage generator) resource.
		Type of resource, examples below:
3	Resource Type ^P	<ul style="list-style-type: none"> ▪ Generator ▪ Participating Load ▪ Import Intertie * ▪ Pump-Storage Generator <p style="text-align: right;">* System Resource</p>
4	Product ^P	Type of Ancillary Service applied in the transaction: <ul style="list-style-type: none"> ▪ Spinning ▪ Non-Spinning ▪ Regulation Up ▪ Regulation Down
5	Schedule Type ^P	Indicates whether the resource was Self-Scheduled by the SC or scheduled by the CAISO market
		Hourly (PDT-based; Hour-Ending format) awarded value in MW unit.
6	HE1 ... HE24	Daylight Savings Time switch: <ul style="list-style-type: none"> ▪ Long Day HE25 column will be displayed ▪ Short Day HE03 column will be blank
7	A/S Region	Sub-report, listing the regions (unique identifier) to which the resource belongs to

2.7. Day-Ahead Market Power Mitigation (MPM) Results

Report Description Displays only mitigated bids as a result of the Day-Ahead Market Power Mitigation

Process

Business Trigger

Completion of the Day-Ahead Market

Layout

For illustrative purposes, the following is a sample listing report layout:

Resource	Configuration	Hour [HE]	Final Mitigated Bid Curve					
			Segment 1		Segment 2		... Segment n	
			[MW]	[\$]	[MW]	[\$]	[MW]	[\$]
Resource1		1	99.99	99.99	99.99	99.99	99.99	99.99
Resource1		2	99.99	99.99	99.99	99.99	99.99	99.99
Resource1		3	99.99	99.99	99.99	99.99	99.99	99.99
Resource1		4	99.99	99.99	99.99	99.99	99.99	99.99
Resource1		5	99.99	99.99	99.99	99.99	99.99	99.99
Resource1		6	99.99	99.99	99.99	99.99	99.99	99.99
Resource2	Resource2_1x1	1	99.99	99.99	99.99	99.99	99.99	99.99
Resource2	Resource2_1x1	2	99.99	99.99	99.99	99.99	99.99	99.99
Resource2	Resource2_1x1	3	99.99	99.99	99.99	99.99	99.99	99.99
Resource2	Resource2_1x1	4	99.99	99.99	99.99	99.99	99.99	99.99

Listed below are the data elements contained in this report.

Attributes

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Resource ^P	Unique identifier of a resource
2	Configuration	The unique identifier for a configuration of an MSG (multi-stage generator) resource.
3	Hour ^P	Hour (in hour-ending format) that the bid was mitigated for
4	Final Mitigated Bid Curve	Complete final resource mitigated bid curve (set of 31 segments per hour) resulting from the Day-Ahead Market, in place of the original Bid. Each segment contains the scheduled MW and price in dollar \$ per MWH unit.

2.8. Real-Time Market Power Mitigation (MPM) Results

Report Description Displays only the mitigated bids resulting from HASP under the Real-Time Market

Business Trigger Completion of HASP

Layout For illustrative purposes, the following is a sample listing report layout:

Resource	Configuration	Hour	Final Mitigated Bid Curve					
			Segment 1		Segment 2		... Segment n	
			[HE]	[MW]	[\$]	[MW]	[\$]	[MW]
Resource1		1	99.99	99.99	99.99	99.99	99.99	99.99
Resource2	Resource2_1x1	1	99.99	99.99	99.99	99.99	99.99	99.99
Resource3		1	99.99	99.99	99.99	99.99	99.99	99.99
Resource4		1	99.99	99.99	99.99	99.99	99.99	99.99
Resource3		1	99.99	99.99	99.99	99.99	99.99	99.99

Listed below are the data elements contained in this report.

Attributes

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Resource ^P	Unique identifier of a resource
2	Configuration	The unique identifier for a configuration of an MSG (multi-stage generator) resource.
3	Hour ^P	Hour (in hour-ending format) that the bid was mitigated for
4	Final Mitigated Bid Curve	Complete Real-Time Market final resource mitigated bid curve (set of 31 segments per hour) resulting from HASP, in place of the original Bid. Each segment contains the scheduled MW and price in \$ per MWH amount.

2.9. Default Energy Bid Curves

Report Description	Contains the final or selected default bid curves that will be used for the Market Power Mitigation process. This information originates from an independent entity.
Business Trigger	Receipt of Default Bid Curves
Layout	For illustrative purposes, the following is a sample listing report layout:

Resource	Configuration	Market	Peak	Adder	Default Bid Type	Bid Curve		
						Segment 1 ... 11		
						Type	[MW]	[\$]
Resource1	Resource1_1x1	Day-Ahead	On	Yes	Cost	Cost	9.99	9.99
Resource2		Day-Ahead	Off	No	LMP	Cost	9.99	9.99
Resource3		Real-Time	On	No	Negotiated	Nego	9.99	9.99

Listed below are the data elements contained in this report.

Attributes

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Transaction date on when default curves applies in the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Resource ^P	Unique identifier of a resource
2	Configuration	The unique identifier for a configuration of an MSG (multi-stage generator) resource.
3	Market ^P	Type of market or process in which the curve applies to: Day-Ahead or Real-Time Market
		Denotes on-peak or off-peak time period (On or Off).
4	Peak ^P	<ul style="list-style-type: none"> All 24 hours are set to off-peak on holidays as defined by WSCC On regular days- Monday thru Saturday, hour-ending 7 to hour-ending 22 are on-peak; and the rest of the hours including Sunday is off-peak
5	Adder	Indicates whether the bid adder value has been applied onto the curve or not
		Classifies the type of Default Energy Bid Curve.
6	Default Bid Type ^P	Examples: <ul style="list-style-type: none"> Cost LMP Negotiated
		Set of 11 segments of the Default Energy Bid curve. Each segment is comprised of:
7	Bid Curve	<ul style="list-style-type: none"> Segment bid type (abbreviated) – further classifies the segment bid type as Cost or Negotiated. This is relevant in the cases where the particular segment of an LMP-based bid curve is based on either cost or negotiated LMP, because competitive LMP's are not sufficiently available. MW value Price \$ per MWH value

Note: The 11th value denotes the ending point of the (last) 10th segment.

2.10. Day-Ahead Generation Commodity Prices

Report Description	Displays Day-Ahead resource-specific prices of Generating Units
Business Trigger	Completion of the Day-Ahead Market
Layout	For illustrative purposes, the following is a sample listing report layout:

			①	②	③	④		
Resource	Product	Price Type	HE1	HE2	HE3	HE4	...HE24	
			[\$]	[\$]	[\$]	[\$]	[\$]	
Resource1	Energy	LMP	99.99	99.99	99.99	99.99	99.99	
Resource1	Energy	Congestion	99.99	99.99	99.99	99.99	99.99	
Resource1	Energy	Energy	99.99	99.99	99.99	99.99	99.99	
Resource1	Energy	Loss	99.99	99.99	99.99	99.99	99.99	
Resource1	A/S Spinning	ASMP	99.99	99.99	99.99	99.99	99.99	
Resource1	RUC	RUC	99.99	99.99	99.99	99.99	99.99	

Attributes	Listed below are the attributes contained in this report.
	P = denotes a user input report parameter
	G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
①	Resource ^P	Unique identifier of a Generating Unit
		Type of product or service contracted in the transaction.
		Examples:
②	Product ^P	<ul style="list-style-type: none"> ▪ Energy ▪ A/S Spinning ▪ A/S Non-Spinning ▪ A/S Regulation Up ▪ A/S Regulation Down ▪ RUC
		Classification of the price value.
		Examples:
③	Price Type ^P	<ul style="list-style-type: none"> ▪ LMP Sum of Congestion ^{MCC} + Energy ^{SMEC} + Loss ^{MCL} ▪ Congestion Corresponds to the Marginal Cost of Congestion (MCC) ▪ Energy Corresponds to the System Marginal Energy Cost (SMEC) ▪ Loss Corresponds to the Marginal Cost of Losses (MCL) ▪ ASMP Corresponds to the Ancillary Service Marginal Price ▪ RUC Corresponds to the Residual Unit Commitment Price
		Hourly (PDT-based; Hour-Ending format) resource-specific prices in dollar per MWH unit.
④	HE1 ... HE24	Daylight Savings Time switch: <ul style="list-style-type: none"> ▪ Long Day HE25 column will be displayed ▪ Short Day HE03 column will be blank

2.11. Day-Ahead Demand Commodity Prices

Report Description Lists Day-Ahead resource-specific prices of both Participating and Non-Participating Loads within the CAISO area

Business Trigger Completion of the Day-Ahead Market

Layout For illustrative purposes, the following is a sample listing report layout:

Resource	Product	Price Type	Resource Type	HE1	HE2	HE3	HE4	...HE24
				\$	\$	\$	\$	\$
Resource1	Energy	LMP	Participating Load	99.99	99.99	99.99	99.99	99.99
Resource1	Energy	Congestion	Participating Load	99.99	99.99	99.99	99.99	99.99
Resource1	Energy	Energy	Participating Load	99.99	99.99	99.99	99.99	99.99
Resource1	Energy	Loss	Participating Load	99.99	99.99	99.99	99.99	99.99
Resource2	A/S Non-Spinning	ASMP	Participating Load	99.99	99.99	99.99	99.99	99.99
Resource3	Energy	LMP	Non-Participating Load	99.99	99.99	99.99	99.99	99.99
Resource3	Energy	Congestion	Non-Participating Load	99.99	99.99	99.99	99.99	99.99
Resource3	Energy	Energy	Non-Participating Load	99.99	99.99	99.99	99.99	99.99
Resource3	Energy	Loss	Non-Participating Load	99.99	99.99	99.99	99.99	99.99

Listed below are the attributes contained in this report.

Attributes

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Resource ^P	Unique identifier of a load resource
2	Product ^P	Type of product or service contracted in the transaction. Examples: <ul style="list-style-type: none"> Energy A/S Non-Spinning
3	Price Type ^P	Classification of the price value. Examples: <ul style="list-style-type: none"> LMP Sum of Congestion ^{MCC} + Energy ^{SMEC} + Loss ^{MCL} Congestion Corresponds to the Marginal Cost of Congestion (MCC) Energy Corresponds to the System Marginal Energy Cost (SMEC) Loss Corresponds to the Marginal Cost of Losses (MCL) ASMP Corresponds to the Ancillary Service Marginal Price
4	Resource Type ^P	Type of resource, either Participating or Non-Participating Load Hourly (PDT-based; Hour-Ending format) resource-specific prices in dollar per MWH unit.
5	HE1 ... HE24	Daylight Savings Time switch: <ul style="list-style-type: none"> Long Day - HE25 column will be displayed Short Day - HE03 column will be blank

2.12. Hour-Ahead Scheduling Process (HASP) Schedules

Report Description	Displays Hour-Ahead Scheduling Process results for the next Trading Hour. Posts the HASP Binding results relevant to Hourly Pre-Dispatched Resources. Posts HASP Advisory results relevant to the Non-Hourly Pre-Dispatch Resources.
Business Trigger	Completion of HASP
Layout	For illustrative purposes, the following is a sample listing report layout:

Resource	Configuration	Product	Schedule Type	Contract Type	Binding	Hour	Interval			
							IE:15 [MW]	IE:30 [MW]	IE:45 [MW]	IE:00 [MW]
Resource1		Energy	Market		Yes	15	99.99	99.99	99.99	99.99
Resource2		Energy	Self	ETC	Yes	15	99.99	99.99	99.99	99.99
Resource3	Resource3_1x1	A/S Non-Spinning	Market		Yes	15	99.99	99.99	99.99	99.99
Resource4		A/S Regulation Up	Market		No	15	99.99	99.99	99.99	99.99
Resource5		A/S Regulation Down	Market		No	15	99.99	99.99	99.99	99.99

Listed below are the attributes contained in this report.

Attributes

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Resource ^P	Unique identifier of a resource
2	Configuration	The unique identifier for a configuration of an MSG (multi-stage generator) resource.
3	Product ^P	Type of product or service contracted in the transaction. Examples: <ul style="list-style-type: none"> ▪ Energy ▪ A/S Spinning ▪ A/S Non-Spinning ▪ A/S Regulation Up ▪ A/S Regulation Down ▪ Load Following Up ▪ Load Following Down
4	Schedule Type ^P	Indicates whether the resource was Self-Scheduled by the SC or scheduled by the CAISO market
5	Contract Type ^P	Corresponds to the specific contract, examples below: <ul style="list-style-type: none"> ▪ RMT (Reliability Must Take) ▪ ETC (Existing Transmission Contract) ▪ TOR (Transmission Ownership Rights) ▪ CVR (Converted Rights) ▪ PT (Price Taker) ▪ LPT (Lower Price) ▪ LOFF (Lay-off) ▪ BASE
6	Binding ^P	Indicates whether the schedule is binding or not. NOTE: A record with the "Binding" set to "No" indicates that it is advisory .
7	Hour ^P	Hour in hour-ending format
8	Interval	Four 15-minute intervals, with each containing the total scheduled amount from the HASP run. Where IE:nn = Interval duration within the hour, ending at nn minutes

2.13. Hour-Ahead Scheduling Process (HASP) Schedule Prices

Report Description	Displays Hour-Ahead Scheduling Process resource-specific prices for the next Trading Hour. Posts the HASP Binding results relevant to Hourly Pre-Dispatched Resources. Posts HASP Advisory results relevant to the Non-Hourly Pre-Dispatch Resources.
Business Trigger	Completion of HASP
Layout	For illustrative purposes, the following is a sample listing report layout:

Resource	Product	Price Type	Binding	Hour [HE]	Interval			
					IE:15 [\$]	IE:30 [\$]	IE:45 [\$]	IE:00 [\$]
Resource1	Energy	LMP	Yes	15	99.99	99.99	99.99	99.99
Resource1	Energy	Congestion	Yes	15	99.99	99.99	99.99	99.99
Resource1	Energy	Energy	Yes	15	99.99	99.99	99.99	99.99
Resource1	Energy	Loss	Yes	15	99.99	99.99	99.99	99.99
Resource2	A/S Spinning	ASMP	No	15	99.99	99.99	99.99	99.99

Listed below are the data elements contained in this report.

Attributes

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Resource ^P	Unique identifier of a resource
2	Product ^P	Type of product or service contracted in the transaction. Examples: <ul style="list-style-type: none"> Energy A/S Spinning A/S Non-Spinning A/S Regulation Up A/S Regulation Down
3	Price Type ^P	Classification of the price value. Examples: <ul style="list-style-type: none"> LMP: Sum of Congestion ^{MCC} + Energy ^{SMEC} + Loss ^{MCL} Congestion: Corresponds to the Marginal Cost of Congestion (MCC) Energy: Corresponds to the System Marginal Energy Cost (SMEC) Loss: Corresponds to the Marginal Cost of Losses (MCL) ASMP: Corresponds to the Ancillary Service Marginal Price
4	Binding ^P	Indicates whether price is binding or not. NOTE: A record with the "Binding" set to "No" indicates that it is advisory.
5	Hour ^P	Hour in hour-ending format
6	Interval	Four 15-minute intervals, with each containing the price from the HASP run per hour. Where IE:nn = Interval duration within the hour, ending at nn minutes

2.14. Day-Ahead Finally Qualified Load Following Capacity

Report Description Displays the Day-Ahead Finally Qualified Load Following Capacity values for Metered Sub-System (MSS) resources

Business Trigger Completion of the Day-Ahead Market

Layout For illustrative purposes, the following is a sample listing report layout:

Resource	Product	Resource Type	HE1 [MW]	HE2 [MW]	HE3 [MW]	HE4 [MW]	... HE24 [MW]
Resource1	Load Following Up	Generator	99.99	99.99	99.99	99.99	99.99
Resource2	Load Following Up	Generator	99.99	99.99	99.99	99.99	99.99
Resource3	Load Following Down	Generator	99.99	99.99	99.99	99.99	99.99
Resource4	Load Following Down	Generator	99.99	99.99	99.99	99.99	99.99
Resource5	Load Following Up	Generator	99.99	99.99	99.99	99.99	99.99
Resource6	Load Following Down	Generator	99.99	99.99	99.99	99.99	99.99

Listed below are the data elements contained in this report.

Attributes

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Resource ^P	Unique identifier of a resource
2	Product ^P	Indicates whether it is either Load Following Up Capacity or Load Following Down Capacity
3	Resource Type ^P	Indicates the type of resource, examples below: <ul style="list-style-type: none"> Generator Pump-Storage Generator
4	HE1 ... HE24	Hourly (PDT-based; Hour-Ending format) load following capacity in MW unit. Daylight Savings Time switch: <ul style="list-style-type: none"> Long Day HE25 column will be displayed Short Day HE03 column will be blank

2.15. Day-Ahead Unit Commitments

Report Description	Displays resources that are self-committed or CAISO committed
Business Trigger	Completion of the Day-Ahead Market
Layout	For illustrative purposes, the following is a sample listing report layout:

1	2	3	4	5	6	7
Resource	Configuration	Resource Type	Operating Mode	Commitment Type	Start Time	End Time
Resource1		Generator		Self-Commitment	mm/dd/yyyy hh:mm:ss AM	mm/dd/yyyy hh:mm:ss AM
Resource2		Generator		CAISO IFM Commitment	mm/dd/yyyy hh:mm:ss AM	mm/dd/yyyy hh:mm:ss AM
Resource3		Pump Storage Generator	Generating	CAISO IFM Commitment	mm/dd/yyyy hh:mm:ss AM	mm/dd/yyyy hh:mm:ss AM
Resource4		Pump Storage Generator	Pumping	CAISO IFM Commitment	mm/dd/yyyy hh:mm:ss AM	mm/dd/yyyy hh:mm:ss AM
Resource5		Generator		CAISO RUC Commitment	mm/dd/yyyy hh:mm:ss AM	mm/dd/yyyy hh:mm:ss AM
Resource6		Import Intertie		CAISO IFM Commitment	mm/dd/yyyy hh:mm:ss AM	mm/dd/yyyy hh:mm:ss AM
Resource7	Resource7_lx1	Generator		Self-Commitment	mm/dd/yyyy hh:mm:ss AM	mm/dd/yyyy hh:mm:ss AM


Listed below are the data elements contained in this report.

Attributes	P = denotes a user input report parameter
	G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Resource ^P	Unique identifier of a resource
2	Configuration	The unique identifier for a configuration of an MSG (multi-stage generator) resource.
3	Resource Type ^P	Type of resource, examples below: <ul style="list-style-type: none"> ▪ Generator ▪ Pump-Storage Generator ▪ Participating Load ▪ Sync Condenser ▪ Import Intertie * ▪ Export Intertie * <p style="text-align: right;">* System Resource</p>
4	Operating Mode ^P	Indicates whether the resource is in Generating or Pumping mode. <i>Note: This field will not be populated.</i>
5	Commitment Type ^P	Indicates whether the commitment originated from the market or was self-committed. Examples: <ul style="list-style-type: none"> ▪ Self-Commitment ▪ CAISO IFM Commitment ▪ CAISO RUC Commitment
6	Start Time	Effective start date and time of the commitment
7	End Time	Effective end date and time of the commitment

2.16. Default RMR Minimum Load & Startup Cost Bid Curves

Report Description	Displays the default minimum load and startup cost bid curves that will be used for the Market Power Mitigation (MPM) Process. This information originates from an independent entity and applies to RMR units only.
Business Trigger	Receipt of default bids
Layout	For illustrative purposes, the following is a sample listing report layout:



Resource	Minimum Load Cost [\$/hr]	Startup Cost Curve			
		Segment 1		... Segment 3	
		[mins]	[\$]	[mins]	[\$]
Resource1	99.99	9.99	9.99	9.99	9.99
Resource2	99.99	9.99	9.99	9.99	9.99
Resource3	99.99	9.99	9.99	9.99	9.99

Listed below are the data elements contained in this report.

Attributes

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the default curve applies in the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Resource ^P	Unique identifier of a resource
2	Minimum Load Cost	Default minimum load cost value measured in \$ dollar per hour
3	Startup Cost Curve	Set of three segments comprised of the cooling time in minutes, and price in dollar \$ unit

2.17. Day-Ahead Import-Export Commodity Prices

Report Description Displays the Day-Ahead unit-specific prices of System Resources

Business Trigger Completion of the Day-Ahead Market

Layout For illustrative purposes, the following is a sample listing report layout:

1	2	3	4	5	6	7				
Resource	Scheduling Point	Direction	Energy Type	Product	Price Type	HE1	HE2	HE3	HE4	...HE24
						[\$]	[\$]	[\$]	[\$]	[\$]
Resource1	Point1	Import	Firm Energy	Energy	LMP	99.99	99.99	99.99	99.99	99.99
Resource1	Point1	Import	Firm Energy	Energy	Congestion	99.99	99.99	99.99	99.99	99.99
Resource1	Point1	Import	Firm Energy	Energy	Energy	99.99	99.99	99.99	99.99	99.99
Resource1	Point1	Import	Firm Energy	Energy	Loss	99.99	99.99	99.99	99.99	99.99
Resource2	Point2	Import	Dynamic Interchange	A/S Spinning	ASMP	99.99	99.99	99.99	99.99	99.99
Resource3	Point3	Export	Non-Firm Energy	Energy	LMP	99.99	99.99	99.99	99.99	99.99
Resource3	Point3	Export	Non-Firm Energy	Energy	Congestion	99.99	99.99	99.99	99.99	99.99
Resource3	Point3	Export	Non-Firm Energy	Energy	Energy	99.99	99.99	99.99	99.99	99.99
Resource3	Point3	Export	Non-Firm Energy	Energy	Loss	99.99	99.99	99.99	99.99	99.99

Listed below are the data elements contained in this report.

Attributes

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Resource ^P	Unique identifier of the System Resource
2	Scheduling Point ^P	Unique identifier of the Scheduling Point <i>Note: This field will not be populated.</i>
3	Direction ^P	Flow of energy/capacity in or out the CAISO Control Area: Import or Export
4	Energy Type ^P	Firm Energy, Non-Firm Energy, Dynamic Interchange, Wheeling, or Unit Contingent
5	Product ^P	Type of product or service applied in the transaction. Examples: <ul style="list-style-type: none"> ▪ Energy ▪ A/S Non-Spinning ▪ A/S Spinning ▪ RUC
6	Price Type ^P	Classification of the price value. Examples: <ul style="list-style-type: none"> ▪ LMP Sum of Congestion ^{MCC} + Energy ^{SMEC} + Loss ^{MCL} ▪ Congestion Corresponds to the Marginal Cost of Congestion (MCC) ▪ Energy Corresponds to the System Marginal Energy Cost (SMEC) ▪ Loss Corresponds to the Marginal Cost of Losses (MCL) ▪ ASMP Corresponds to the Ancillary Service Marginal Price ▪ RUC Corresponds to the Residual Unit Commitment Price
7	HE1 ... HE24	Hourly (PDT-based; Hour-Ending format) resource-specific prices in dollar per MWH unit. Daylight Savings Time switch: <ul style="list-style-type: none"> ▪ Long Day HE25 column will be displayed ▪ Short Day HE03 column will be blank

2.18. Extremely Long Start Resource Instructions

Report Description Displays the binding Start-Up and Transition instructions of Extremely Long Start Resource units. *Note: This report is not currently active.*

Business Trigger Completion of the Extremely Long Commitment (ELC) Process

Layout For illustrative purposes, the following is a sample listing report layout:

Resource	Configuration		Resource Type	Instruction				Binding	Instruction Cost [\$]
	From	To		Source	Type	Start Time	End Time		
Resource1			Generator	ELC	Startup	mm/dd/yyyy hh:mm:ss AM		Yes	99.99
Resource2			Generator	ELC	Startup	mm/dd/yyyy hh:mm:ss AM		Yes	99.99
Resource3			Generator	ELC	Startup	mm/dd/yyyy hh:mm:ss AM		Yes	99.99
Resource4			Generator	ELC	Startup	mm/dd/yyyy hh:mm:ss AM		Yes	99.99
Resource5		Resource5_1x1	Generator	ELC	Startup	mm/dd/yyyy hh:mm:ss AM		Yes	99.99
Resource6	Resource6_1x1	Resource6_2x1	Generator	ELC	Transition	mm/dd/yyyy hh:mm:ss AM	mm/dd/yyyy hh:mm:ss AM	Yes	99.99

Listed below are the data elements contained in this report.

Attributes

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date that identifies the Day-Ahead Market being processed
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Resource ^P	Unique identifier of a resource
2	Configuration - From	This element represents the starting configuration identifier of the transition for an MSG (multi-stage generator) resource. This element will be populated when the InstructionType of the record is a "Transition"; otherwise it will be Null.
	Configuration - To	This element represents the ending configuration identifier of the transition for an MSG (multi-stage generator) resource. This element will be populated for all MSG resources.
3	Resource Type ^P	Type of resource, examples below: <ul style="list-style-type: none"> Generator Import Intertie
	Instruction Source	Indicates "ELC" for "Extremely Long Commitment" market process
	Instruction Type	Indicates whether the instruction is a Startup or Transition. If instruction Type = 'Startup', datetime on when the unit should be completely online, i.e. expected to be at the Minimum Load Level.
4	Start Time	If instruction Type = 'Transition', datetime on when the when the multi-stage generator (MSG) unit should start its transitioning process. If instruction Type = 'Startup', then this element's data value is NULL;
	End Time	If instruction Type = 'Transition', then this element is the (end) date and time, in California Prevailing Time, when the multi-stage generator (MSG) unit should complete its transitioning process.
5	Binding	Indicator whether the instruction is binding or not. <i>Note: Flag will always be "Yes".</i>
6	Instruction Cost	Startup or Transition cost in \$ dollar unit. In cases of Extremely Long Start Resources, this will be blank or null.

2.19. Day-Ahead Reliability Must Run (RMR) Dispatches

Report Description	Displays only those RMR units with either an Energy Schedule (from IFM) and/or an RMR Dispatch.
Business Trigger	Completion of the Day-Ahead Market
Layout	For illustrative purposes, the following is a sample listing report layout:

Resource	HE01		HE02		... HE24	
	Schedule	RMR	Schedule	RMR	Schedule	RMR
	[MW]	[Yes/No]	[MW]	[Yes/No]	[MW]	[Yes/No]
Resource1	99.99	Yes	99.99	Yes	99.99	No
Resource2	99.99	No	99.99	Yes	99.99	No
Resource3	99.99	Yes	99.99	No	99.99	Yes
Resource4	99.99	Yes	99.99	No	99.99	No
Resource5	99.99	Yes	99.99	Yes	99.99	Yes
Resource6	99.99	No	99.99	Yes	99.99	No

Listed below are the data elements contained in this report.

Attributes	P = denotes a user input report parameter
	G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Resource ^P	<p>Unique identifier of a resource</p> <p>Hourly (PDT-based; Hour-Ending format) values containing the following:</p> <ul style="list-style-type: none"> Day-Ahead Energy Schedule cleared and scheduled through the IFM run, in MW unit <p><i>Note:</i> This does not denote the Day-Ahead RMR Requirement value.</p> <ul style="list-style-type: none"> RMR Flag indicating if the resource was dispatched under the RMR Contract. This will be set to 'Yes' when it was: <ul style="list-style-type: none"> Manually dispatched by an Operator; or Generated by the market run where the unit has an AC (All Constraints) schedule value greater than the CC (Competitive Constraint) schedule, even if the (IFM) Day-Ahead Schedule is zero. <p>Daylight Savings Time switch:</p> <ul style="list-style-type: none"> Long Day- HE25 column will be displayed Short Day- HE03 column will be blank
2	HE1 ... HE24	

2.20. Expected Energy Allocation

Displays the post-market Expected Energy results from the energy accounting process.

Report Description

Expected energy is the sum total of all DA and RT market awards, Exceptional Dispatches and verbal instructions, taking into account physical limitations (SLIC), carved up into their Settlement components.

Publication

Post-market results @ Trade Date +1 and @ Preliminary/Final Settlements Publication

Layout

For illustrative purposes, the following is a sample listing report layout:

1	2	3	4	5	6	7	8	9
Resource	Configuration	Hour	Interval	Market Service Type	Energy Type	Bid Price	Expected Energy	OEOVERLAPMSS
						[\$]	[MWH]	
Resource1		1	1	Market Energy Capacity	Energy Type1	99.99	99.99	No
Resource1		1	2	Market Energy Capacity	Energy Type1	99.99	99.99	No
Resource1		1	3	Market Energy Capacity	Energy Type1	99.99	99.99	No
Resource1		1	4	Market Energy Capacity	Energy Type1	99.99	99.99	No
Resource2	Resource2_1x1	1	1	Spin Capacity	Energy Type2	99.99	99.99	No
Resource3		1	1	Derate Capacity	Energy Type3	99.99	99.99	No

Listed below are the data elements contained in this report.

Attributes

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Resource ^P	Unique identifier of a resource
2	Configuration	The unique identifier for a configuration of an MSG (multi-stage generator) resource.
3	Hour ^P	Hour in hour-ending format
4	Interval ^P	N th five-minute interval within the hour
5	Market Service Type ^P	<p>Market Service Type depends on the SC's Bid Curve and Market Results. Examples:</p> <ul style="list-style-type: none"> ▪ ME – Market Energy Capacity ▪ SR – Spin Capacity ▪ NR – NonSpin Capacity ▪ D□C – Day-Ahead Energy Capacity ▪ DEC – Derate Capacity
6	Energy Type	<p>Energy component for which the settlement allocation is based on.</p> <p>Examples are: Optimal Energy, Standard Ramping Energy, Ramping Energy Deviation, Residual Energy, Minimum Load Energy, SLIC Energy, Exceptional Dispatch Energy, RMR Energy, RT Self-Scheduled Energy, Pumping Energy, etc.</p> <p>Note: For a listing of all of the valid EE types, reference The BPM for Market Operations, Appendix C, Section C.4</p>
7	Bid Price	Price awarded per Expected energy and Market Service Type from the SC's Bid Curve in dollar \$ unit. Can be NULL
8	Expected Energy	Expected energy value in MWH unit
9	MSS-OE overlapping	Indicates that the MSS load following energy overlaps with the optimal energy (Y/N, can be NULL)

2.21. Conformed Dispatch Notice (CDN)

Report Description Summary of the Day-Ahead and Real-Time Market results of RMR resources. This is commonly referred to as the “CDN” report.

Publication Post-market results @ Trade Date +1

Layout For illustrative purposes, the following is a sample listing report layout:

Resource	Hour	Day-Ahead Market							Real-Time Market			Voltage Support		Unit Substitution	
		Energy	Spin	NonSpin	RegUp	RegDown	RMR Dispatch	CCR	RMR Dispatch Energy		CCR	Flag	Dispatch	Unit 1 ... 3	
									Interval 1 ... 6	Total				ResID	MW
Resource1	1	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	Yes	99.99	ResA	99.99
Resource2	2	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	Yes	99.99	ResB	99.99
Resource3	3	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	Yes	99.99	ResC	99.99
Resource4	4	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	Yes	99.99	ResD	99.99
Resource5	5	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	Yes	99.99	ResE	99.99

Attributes Listed below are the data elements contained in this report.

P = denotes a user input report parameter ; G = denotes a report group section attribute

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Resource ^P	Unique identifier of a resource
2	Hour ^P	Hour in hour-ending format
3	Day-Ahead Market	<p>Displays the results from Day-Ahead Market Processes:</p> <ul style="list-style-type: none"> Energy: Sum of Energy Schedules Spin: Sum of Ancillary Service Spinning Awards NonSpin: Sum of Ancillary Service Non-Spinning Awards RegUp: Sum of Ancillary Service Regulation Up Awards RegDown: Sum of Ancillary Service Regulation Down Awards RMR Dispatch: Dispatched/scheduled value that was either manually or generated by the market run, pursuant to the RMR Contract CCR: Corresponds to the Competitive Constraint Run value
4	Real-Time Market	<p>Displays the results from Real-Time Market Processes:</p> <ul style="list-style-type: none"> Intervals 1 to 6: RMR Dispatch Energy per 10-minute intervals Total: Hourly RMR Dispatch Energy (sum of the six intervals) CCR: Corresponds to the Competitive Constraint Run value
5	Voltage Support	<p>Voltage Support column contains the following information:</p> <ul style="list-style-type: none"> Flag – indicates whether the unit was dispatched for voltage support Dispatch – Constrained MW value for local voltage support
6	Unit Substitution	<p>Unit Substitution column contains the following information:</p> <ul style="list-style-type: none"> ResID – identifier of the substitute resource (maximum of three units) MW – scheduled value of the substituting unit

2.22. Expected Energy

Report Description

Displays the post-market Expected Energy results from the energy accounting process. This report will contain the Total Expected Energy for Day Ahead, Real Time, Instructed and Total energy.

Publication

Post-market results @ Trade Date +1 and @ Preliminary/Final Settlements Publication

Layout

For illustrative purposes, the following is a sample listing report layout:

1	2	3	4	5	6	7
Resource	Configuration	Hour	Interval	Energy Type	Expected Energy [MWH]	OEOVERLAPMSS
Resource1	Resource1_1x1	1	1	Energy Type1	99.99	No
Resource1	Resource1_1x1	1	2	Energy Type1	99.99	No
Resource1	Resource1_1x1	1	3	Energy Type1	99.99	No
Resource1	Resource1_1x1	1	4	Energy Type1	99.99	No
Resource2		1	1	Energy Type2	99.99	No
Resource3		1	1	Energy Type3	99.99	No

Listed below are the data elements contained in this report.

Attributes

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Resource ^P	Unique identifier of a resource
2	Configuration	The unique identifier for a configuration of an MSG (multi-stage generator) resource.
3	Hour ^P	Hour in hour-ending format
4	Interval ^P	N th five-minute interval within the hour
5	Energy Type	Energy component for which the settlement allocation is based on. Examples are: Optimal Energy, Standard Ramping Energy, Ramping Energy Deviation, Residual Energy, Minimum Load Energy, SLIC Energy, Exceptional Dispatch Energy, RMR Energy, RT Self-Scheduled Energy, Pumping Energy, etc. <i>Note:</i> For a listing of all of the valid EE types, reference The BPM for Market Operations, Appendix C, Section C.4
6	Expected Energy	Expected energy value in MWH unit
7	MSS-OE overlapping	Indicates that the MSS load following energy overlaps with the optimal energy (Y/N, can be null)

2.23. ISO Commitment Cost Details

Report Description

Displays the post-market Expected Energy results from the energy accounting process. This report will contain the Commitment Flags and Commitment Cost to validate the Bid Cost Recovery charge in Settlements.

Publication

Post-market results @ Trade Date +1 and @ Preliminary/Final Settlements Publication

Layout

For illustrative purposes, the following is a sample listing report layout:

Resource	Configuration	Hour	Interval	Market Type	Start Up		Shut Down		Minimum Load		Pump		Transition		RMR
					Cost [\$]	Flag [Y/N]	Cost [\$]	Flag [Y/N]	Cost [\$]	Flag [Y/N]	Cost [\$]	Flag [Y/N]	Cost [\$]	Flag [Y/N]	Flag [Y/N]
Resource1		1	1	RTFD	999.99	Y	999.99	Y	999.99	Y	999.99	Y	999.99	Y	Y
Resource2		1	2	RTFD	999.99	Y	999.99	Y	999.99	Y	999.99	Y	999.99	Y	Y
Resource3		1	3	RTFD	999.99	Y	999.99	Y	999.99	Y	999.99	Y	999.99	Y	Y
Resource4		1	4	RTFD	999.99	Y	999.99	Y	999.99	Y	999.99	Y	999.99	Y	Y
Resource5		1	1	RTFD	999.99	Y	999.99	Y	999.99	Y	999.99	Y	999.99	Y	Y
Resource6		1	2	RTFD	999.99	Y	999.99	Y	999.99	Y	999.99	Y	999.99	Y	Y
Resource7	Resource7_ix1	1	3	RTFD	999.99	Y	999.99	Y	999.99	Y	999.99	Y	999.99	Y	Y

Attributes

Listed below are the data elements contained in this report.

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Resource ^P	Unique identifier of a resource
2	Configuration	The unique identifier for a configuration of an MSG (multi-stage generator) resource.
3	Hour ^P	Hour in hour-ending format
4	Interval ^P	N th 10-minute interval within the hour
5	Market Type	Market Type will be RTM for Real Time, RUC or IFM
6	Start Up Cost	Start Up Cost for the Resource and the Eligibility Flag for the Start Up Cost
7	Pump Shut Down Cost	Pump Shut Down Cost for the Resource and the Eligibility Flag for the Pump Shut Down Cost
8	Minimum Load Cost	Minimum Load Cost for the Resource and the Eligibility Flag for the Minimum Load
9	Pump Cost	Pump Cost for the Resource and the Eligibility Flag for the Pump Cost
10	Transition Cost	Bid cost recovery eligible transition cost for the multi-stage generator (MSG) resource and the Eligibility Flag.
11	RMR_Flag	Eligibility Flag for the RMR Commitment

2.24. CRN

Report Description

Reports the MW breakdown for ETC/TOR Self-Schedules for DAM and RTM by resource and CRN number.

Note: This report has limited functionality, and is only available in the GUI. The same results are posted to the CAISO SFTP site for downloading, but there is no API retrieve service for this report.

Publication

Posts the Day-Ahead results @ Trade Date -1 at approximately 2 hours after the close of the Day-Ahead Market.

Posts the Real-Time results @ Trade Date +5

Layout

For illustrative purposes, the following is a sample listing report layout:

Scheduling Coordinator	Trading Day	Trading Hour	Trading Interval	Resource Name	CRN Number
Self-Schedule Quantity	Contract Type				

Attributes

Listed below are the data elements contained in this report.

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Market ^{PG}	Market Type selection. (Day-Ahead or Real-Time)
1	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
2	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
3	Trading Hour	Hour in hour-ending format
4	Trading Interval	10-minute interval within the hour
5	Resource Name	Unique identifier of a resource
6	CRN Number	Contract ID for which the schedule was designated for. For chains, the Parent Chain name will appear.
7	Self-Schedule Quantity	Awarded value in MW unit.
8	Contract Type	Corresponds to the specific contract. Examples: <ul style="list-style-type: none"> ▪ ETC (Existing Transmission Contract) ▪ CVR (Converted Rights) ▪ TOR (Transmission Ownership Rights)

 California ISO <small>Shaping a Renewed Future</small>	CUSTOMER MARKET RESULTS INTERFACE	Version 2.21.1
	(CMRI)	02/25/2015

3. Transmission Constraints Enforcement Reports

This section summarizes the Transmission Constraints Enforcement List reports that are available through the Customer Market Results Interface (CMRI) for users who obtain access as detailed in Tariff Section 6.5.3.3.1. This tariff section details the process for completing the *Non-Disclosure Agreement for Transmission Constraints Enforcement Lists*.

Reports in this section will not be visible to users that have not completed the above-mentioned process.

These reports are available through the CMRI GUI only. The reports are located in the “Transmission Constraints” folder of the CMRI application.

There are currently no downloading services available for the reports in this section.

Summary of Transmission Constraints Enforcement Reports

	Title	Contents
1	Flowgate Constraints	Displays the complete list of flowgate constraints e.g. Line, Transformer, Phase Shifter, Series Device or Transmission Corridor
2	Transmission Corridor Constraints	Displays the complete list of transmission corridor constraints defined in the market
3	Nomogram Constraint Enforcements	Displays the list of nomogram constraints that are active for the particular trading day and market, which can be either enforced or not enforced
4	Nomogram Constraint Definitions	Displays the complete list of defined nomogram constraints in the market
5	Transmission Contingencies	Displays the complete list of transmission contingencies defined in the market

3.1. Flowgate Constraints

Report Description	Displays the complete list of flowgate constraints e.g. Line, Transformer, Phase Shifter, Series Device or Transmission Corridor
Publication	Publication of the Post Day-Ahead Market (D+1) by one hour after the publication of the Day-Ahead results and Pre Day-Ahead Market (D+2) by 18:00.
Layout	For illustrative purposes, the following is a sample listing report layout:

①	②	③	④
Flowgate Name	Type	Enforced Flag	Competitive Flag
14122_AAAAAA_600_88002_BBB-CCC_500_BR_1_5	LINE	Yes	No
55533_XXXXX_1_14.4_12348_QASEFG_456_XF_1	XFMR	No	Yes
54587_TTTT_PS_115_85214_EDCR-SSS_115_PS_1	PHSH	Yes	No
40006_EEEE_XX_500_66015_BBBBB_YY_500_BR_1_1	SERD	No	Yes
MARKETSCH_MSL	TCOR	Yes	No
BRANCHGRPA_BG	TCOR	No	Yes

Listed below are the data elements contained in this report.

Attributes

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed within the report title

#	Attribute	High-Level Description
	Trade Date ^{PG}	Date on when the trade transaction occurs within the market
	Market ^{PG}	Type of market in which the nomogram constraints applies to: <ul style="list-style-type: none"> Post Day-Ahead Pre Day-Ahead
①	Flowgate Name	The unique alphanumeric identifier name of a flowgate
②	Type	The equipment classification of the flowgate, as follows: <ul style="list-style-type: none"> LINE (Individual transmission line between two stations) XFMR (Transformer in station transforming from one voltage to another) PHSH (Phase shifter controlling flow) SERD (Series device capacitor, reactor) TCOR (Transmission Corridor)
③	Enforced Flag	The indicator specifying if the flowgate is enforced or not (Yes/No)
④	Competitive Flag	The indicator specifying if the flowgate is competitive (Yes/No)

3.2. Transmission Corridor Constraints

Report Description Displays the complete list of transmission corridor constraints defined in the market

Business Trigger Publication of the Post Day-Ahead Market (D+1) by one hour after the publication of the Day-Ahead results and Pre Day-Ahead Market (D+2) by 18:00.

Layout For illustrative purposes, the following is a sample listing report layout:

1	2	3	4	5
Transmission Corridor Name	Equipment Name	Equipment Type	FROM Station	TO Station
BRANCHGRPA MSL	11111 XXXXX 230 3457 AAAAAA 230 BR 1 1	LINE	STATION1	STATION2
BRANCHGRPA MSL	11111 YYYY 3457 BBBB 500 BR 1 1	LINE	STATION3	STATION4
BRANCHGRPA MSL	22222 ZZZZ 230 3457 ABABAA 230 BR 1 1	LINE	STATION5	STATION5
BRANCHGRPA MSL	33333 AAAAA 500 5784 BBBB 500 BR 1 1	LINE	STATION7	STATION6
BRANCHGRPA MSL	44444 XXXXX 230 7777 XXXXX 230 BR 1 1	LINE	STATION9	STATION7
BRANCHGRPA MSL	5555 XXXXX 230 3457 AAAAAA 230 BR 1 1	LINE	STATION1	STATION1

Attributes Listed below are the data elements contained in this report.

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed within the report title

#	Attribute	High-Level Description
	Trade Date ^{PG}	Date on when the trade transaction occurs within the market
	Market ^{PG}	Type of market in which the transmission corridor constraints applies to: <ul style="list-style-type: none"> Post Day-Ahead Pre Day-Ahead
1	Transmission Corridor Name	The unique alphanumeric identifier name of a transmission corridor
2	Equipment Name	The unique alphanumeric identifier for an equipment comprising a transmission corridor
3	Equipment Type	The classification of the equipment, as follows: <ul style="list-style-type: none"> LINE (Individual transmission line between two stations) XFMR (Transformer in station transforming from one voltage to another) PHSH (Phase shifter controlling flow) SERD (Series device capacitor, reactor)
4	FROM Station	This refers to the name of station at the "FROM" end of the line
5	TO Station	This refers to the name of station at the "TO" end of the line

3.3. Nomogram Constraint Enforcements

Report Description Displays the list of nomogram constraints that are active for the particular trading day and market, which can be either enforced or not enforced

Business Trigger Publication of the Post Day-Ahead Market (D+1) by one hour after the publication of the Day-Ahead results and Pre Day-Ahead Market (D+2) by 18:00.

Layout For illustrative purposes, the following is a sample listing report layout:

1	2	3	4	5	6	7	8
Nomogram Name	Enforced Flag	Competitive Flag	Constraint Type	Curve ID	Segment ID	Effective Start Datetime	Effective End Datetime
T-XXX SALXX NG SUM	Yes	Yes	LE	1	1	mm/dd/yyyy hh:mm:ss AM/PM	mm/dd/yyyy hh:mm:ss AM/PM
BBBB YYYYYY NG	No	Yes	LE	1	1	mm/dd/yyyy hh:mm:ss AM/PM	mm/dd/yyyy hh:mm:ss AM/PM
222220-ABAB-OLPOL-LOSS	Yes	Yes	GE	1	1	mm/dd/yyyy hh:mm:ss AM/PM	mm/dd/yyyy hh:mm:ss AM/PM
X-111 AAAAAA NG SUM	No	No	GE	1	1	mm/dd/yyyy hh:mm:ss AM/PM	mm/dd/yyyy hh:mm:ss AM/PM
PAULX 115 NM	Yes	No	LE	1	1	mm/dd/yyyy hh:mm:ss AM/PM	mm/dd/yyyy hh:mm:ss AM/PM
ZZZZZZ TKs QAFLG NG	No	No	LE	1	1	mm/dd/yyyy hh:mm:ss AM/PM	mm/dd/yyyy hh:mm:ss AM/PM
SC 00000 XYXYXYX NG	Yes	Yes	GE	1	1	mm/dd/yyyy hh:mm:ss AM/PM	mm/dd/yyyy hh:mm:ss AM/PM

Listed below are the data elements contained in this report.

Attributes

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed within the report title

#	Attribute	High-Level Description
	Trade Date ^{PG}	Date on when the trade transaction occurs within the market
	Market ^{PG}	Type of market in which the nomogram constraint enforcements applies to: <ul style="list-style-type: none"> Post Day-Ahead Pre Day-Ahead
1	Nomogram Name	The unique alphanumeric identifier name of a nomogram
2	Enforced Flag	The indicator specifying if the nomogram is enforced or not (Yes/No)
3	Competitive Flag	The indicator specifying if the nomogram is competitive (Yes/No)
4	Constraint Type	The classification of the constraint, as follows: <ul style="list-style-type: none"> LE (Less or equal) GE (Greater or equal)
5	Curve ID	The numeric identifier of the Curve. There can be up to N number of Curves defined per transmission corridor
6	Segment ID	The numeric identifier of the Segment of the Curve. There can be up to N number of segments per Curve
7	Effective Start Datetime	The effective start datetime of the nomogram enforcement (Pacific)
8	Effective End Datetime	The effective end datetime of the nomogram enforcement (Pacific)

3.4. Nomogram Constraint Definitions

Report Description	Displays the complete list of defined nomogram constraints in the market
Business Trigger	Publication of the Post Day-Ahead Market (D+1) by one hour after the publication of the Day-Ahead results and Pre Day-Ahead Market (D+2) by 18:00.
Layout	For illustrative purposes, the following is a sample listing report layout:

1	2	3	4	5	6
Nomogram Name	Variable Name	Variable Type	Curve ID	Segment ID	Coefficient
T-XXX_SALXX_NG_SUM	XXXX_NG_1	TCR	1	1	1
T-XXX_SALXX_NG_SUM	XXXX_NG_2	TCR	1	1	0.07
T-XXX_SALXX_NG_SUM	XXXX_NG_3	TCR	1	1	0.25
T-XXX_SALXX_NG_SUM	XXXX_NG_4	TCR	1	1	0.32
BBBB_YYYYYY_NG	YYYY_NG_7	AGR	1	1	1
BBBB_YYYYYY_NG	YYYY_NG_8	AGR	1	1	0.20
BBBB_YYYYYY_NG	YYYY_NG_9	AGR	1	1	0.66

Listed below are the data elements contained in this report.

- Attributes**
- P = denotes a user input report parameter
 - G = denotes a report group section attribute; displayed within the report title

#	Attribute	High-Level Description
	Trade Date ^{PG}	Date on when the trade transaction occurs within the market
	Market ^{PG}	Type of market in which the nomogram constraints applies to: <ul style="list-style-type: none"> ▪ Post Day-Ahead ▪ Pre Day-Ahead
1	Nomogram Name	The unique alphanumeric identifier name of a nomogram
2	Variable Name	The unique alphanumeric identifier of the nomogram variable
3	Variable Type	The variable type, representing flow across a transmission corridor (TCR), aggregated generator (AGR), or generator (G)
4	Curve ID	The numeric identifier of the Curve. There can be up to N number of Curves defined per nomogram
5	Segment ID	The numeric identifier of the Segment of the Curve. There can be up to N number of segments per Curve.
6	Coefficient	The participation factor of the variable in the nomogram inequality

3.5. Transmission Contingencies

Report Description	Displays the complete list of transmission contingencies defined in the market
Business Trigger	Publication of the Post Day-Ahead Market (D+1) by one hour after the publication of the Day-Ahead results and Pre Day-Ahead Market (D+2) by 18:00.
Layout	For illustrative purposes, the following is a sample listing report layout:

1	2	3	4	5	6
Contingency Title	Enforced Flag	TAC Area	Equipment Station	Equipment Voltage	Equipment Name
mTC1-SUNNY-XXXXX	Yes	TAC-1	STATION1	115	11111 XXX AAA1 115 41517 YYYYYY 115 BR 1 1
mTC1-SUNNY-XXXXX	Yes	TAC-1	STATION1	115	22222 YYY BBB 16.0 41712 QQ BQA1 115 XF 1
mTC1-SUNNY-XXXXX	Yes	TAC-1	STATION2	230	33333 PPPPPP 115 21554 BABABABA 115 BR 1 1
mTC2-CLOUDY-MMMMM-1	Yes	TAC-2	STATION1	115	44444 LLLLL PT 115 20273 MMMM C 115 BR 1 1
mTC2-CLOUDY-MMMMM-1	Yes	TAC-2	STATIONA	230	55555 EEEEE PT 115 54128 KKKKK C 115 BR 1 1
mTC3-WWWW-DDDDDD-3	Yes	TAC-3	STATIONB	115	66666 ABDCE PT 115 23244 MMMM C 115 BR 3 1
mTC3-WWWW-DDDDDD-3	Yes	TAC-3	STATIONC	230	99999 SSSPP PT 115 33244 XXXXX C 115 BR 3 1

Listed below are the data elements contained in this report.

Attributes

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed within the report title

#	Attribute	High-Level Description
	Trade Date ^{PG}	Date on when the trade transaction occurs within the market
	Market ^{PG}	Type of market in which the transmission contingencies applies to: <ul style="list-style-type: none"> Post Day-Ahead Pre Day-Ahead
1	Contingency Title	The unique alphanumeric identifier of the contingency name
2	Enforced Flag	The indicator specifying if the contingency is enforced or not (Yes/No)
3	TAC Area	This represents the zone at which the contingency is defined in.
4	Equipment Station	The substation where the outaged equipment is located.
5	Equipment Voltage	The voltage level of the outaged equipment (e.g. 115, etc)
6	Equipment Name	The alphanumeric identifier of the outaged equipment.

4. Convergence Bidding Reports

This section summarizes the Convergence Bidding reports that are available through the Customer Market Results Interface (CMRI).

Reports 4.2, 4.3 and 4.4 are associated with the CRR Adjustment Settlement Rule.

For additional details on the CRR Adjustment Settlement Rule, please see the BPM for Market Operations, Appendix F.

Summary of Convergence Bidding Reports

	Title	Contents
4.1	Day Ahead Convergence Bidding Awards	Displays the market virtual bidding supply and demand awards that were cleared in the day-ahead market for energy
4.2	Hourly Prices due to Convergence Bidding for CRR Adjustment	Displays the hourly prices that CAISO uses to calculate Congestion Revenue Rights (CRR) adjustments due to virtual bidding.
4.3	Binding Transmission Constraints due to Convergence Bidding for CRR Adjustment Report	Displays supporting data for settlement charges imposed on scheduling coordinators, as a result of the application of the CRR settlement rule - specifically CRR flow impact on award locations for each scheduling coordinator.
4.4	Flow Impact due to Convergence Bidding for CRR Adjustment	Displays supporting data for settlement charges imposed on scheduling coordinators, as a result of the application of the CRR settlement rule – specifically CRR flow impact aggregated by Entity, where the Entity is a Convergence Bidding Entity name that coincides with a CRR Holder.

4.1. Day- Ahead Convergence Bidding Awards

Report Description Displays the market virtual bidding supply and demand awards that were cleared in the day-ahead market for energy

Business Trigger Completion of the Day-Ahead Market

Layout For illustrative purposes, the following is a sample listing report layout:

1	2	3	4				
Node ID	Supply/Demand	Intertie Flag	HE1	HE2	HE3	HE4	... HE24
			[MW]	[MW]	[MW]	[MW]	[MW]
PNode100	Supply	No	99.99	99.99	99.99	99.99	99.99
PNode100	Demand	No	99.99	99.99	99.99	99.99	99.99
PNode200	Supply	Yes	99.99	99.99	99.99	99.99	99.99
APNode800	Supply	No	99.99	99.99	99.99	99.99	99.99
APNode900	Demand	Yes	99.99	99.99	99.99	99.99	99.99

Listed below are the data elements contained in this report.

Attributes

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Date on when the trade transaction occurs within the market
	Scheduling Coordinator ^{PG}	Unique identifier of the Scheduling Coordinator
1	Node ID ^P	The PNode or APNode ID associated with the node where virtual bidding occurred
2	Supply/Demand ^P	Indicates whether this is a demand or supply virtual bid, valid values are: <ul style="list-style-type: none"> Supply Demand
3	Intertie Flag	The flag indicating whether the award is for an intertie or not (Yes/No)
4	HE1 ... HE24	Hourly (PDT-based; Hour-Ending format) cleared virtual bidding awarded amount in MW unit. <p>Daylight Savings Time switch:</p> <ul style="list-style-type: none"> Long Day HE25 column will be displayed Short Day HE03 column will be blank

4.2. Hourly Prices due to Convergence Bidding for CRR Adjustment

Report Description	Displays the hourly prices that CAISO uses to calculate Congestion Revenue Rights (CRR) adjustments due to virtual bidding.
Business Trigger	Post-market results @ Trade Date +1 and @ Preliminary/Final Settlements Publication
Layout	For illustrative purposes, the following is a sample listing report layout:

1	2	3	4
Constraint	CRR ID	Hour [HE]	Price [\$]
LineABC	12345600	2	999.99
LineABC	12345700	3	999.99
LineABC	12345800	5	999.99
LineXYZ	12345600	2	999.99
LineXYZ	12345700	3	999.99

Listed below are the data elements contained in this report.

Attributes

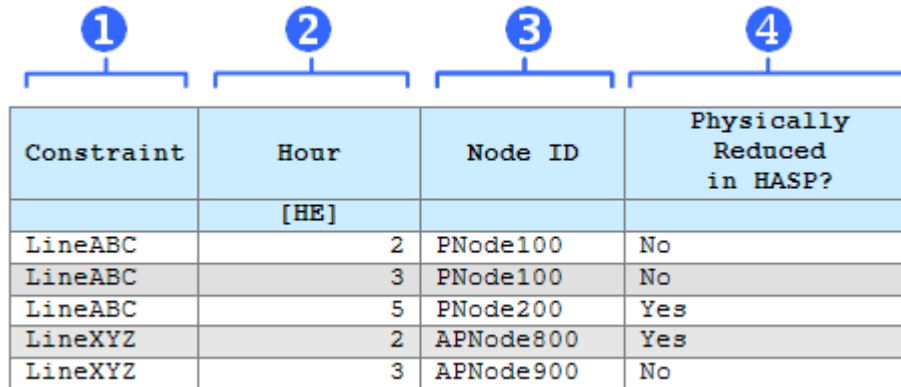
P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Market trading day on when the CRR settlement rule is applicable on
	Scheduling Coordinator ^{PG} (CRR Holder)	Unique identifier of the Scheduling Coordinator certified by the CAISO who is a CRR Holder entity
1	Constraint ^P	Identifier of the transmission constraint that impacted the CRR portfolio due to virtual bidding
2	CRR ID	Represents the CRR identifier impacted by the CRR settlement rule due to virtual bidding
3	Hour	Represents the trading hour (hour-ending) impacted by the CRR settlement rule due to virtual bidding
4	Price	Denotes the calculated price which is the difference between the Day-Ahead and Real-Time due to virtual bidding with impact on the CRR portfolio.

4.3. Binding Transmission Constraints due to Convergence Bidding for CRR Adjustment

Report Description	Displays supporting data for settlement charges imposed on scheduling coordinators, as a result of the application of the CRR settlement rule - specifically CRR flow impact on award locations for each scheduling coordinator.
Business Trigger	Post-market results @ Trade Date +1 and @ Preliminary/Final Settlements Publication
Layout	For illustrative purposes, the following is a sample listing report layout:



1	2	3	4
Constraint	Hour	Node ID	Physically Reduced in HASP?
	[HE]		
LineABC	2	PNode100	No
LineABC	3	PNode100	No
LineABC	5	PNode200	Yes
LineXYZ	2	APNode800	Yes
LineXYZ	3	APNode900	No

Listed below are the data elements contained in this report.

Attributes

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Market trading day on when the CRR settlement rule is applicable on
	Scheduling Coordinator ^{PG} (Virtual Bidder)	Unique identifier of the scheduling coordinator certified by the CAISO to submit virtual bids via a convergence bidding agreement
1	Constraint ^P	Identifier of the transmission constraint that impacted the CRR portfolio due to virtual bidding
2	Hour ^P	Represents the trading hour (hour-ending) impacted by the CRR settlement rule due to virtual bidding
3	Node	Represents the Full Network Model node identifier associated with the transmission constraint.
4	Physically Reduced in HASP?	<p>Flag indicating either of the following:</p> <ul style="list-style-type: none"> Yes = Denotes that the node's impact to the CRR settlement rule was due to physical bidding activity, that is reduced in the HASP market No = Denotes that the node's impact o the CRR settlement rule was due to virtual bidding activity

4.4. Flow Impact due to Convergence Bidding for CRR Adjustment

Report Description


Displays supporting data for settlement charges imposed on scheduling coordinators, as a result of the application of the CRR settlement rule – specifically CRR flow impact aggregated by Entity, where the Entity is a Convergence Bidding Entity name that coincides with a CRR Holder.

Business Trigger

Post-market results @ Trade Date +1 and @ Preliminary/Final Settlements Publication

Layout

For illustrative purposes, the following is a sample listing report layout:



Constraint	Hour [HE]	Total Flow [MW]
LineABC	2	999.99
LineABC	3	999.99
LineABC	5	999.99
LineXYZ	2	999.99
LineXYZ	3	999.99

Listed below are the data elements contained in this report.

Attributes

P = denotes a user input report parameter

G = denotes a report group section attribute; displayed as a page header

#	Attribute	High-Level Description
	Trading Day ^{PG}	Market trading day on when the CRR settlement rule is applicable on
	Scheduling Coordinator ^{PG} (virtual bidder)	Unique identifier of the scheduling coordinator certified by the CAISO to submit virtual bids via a Convergence Bidding Entity Agreement
	Entity ^G	Represents the Convergence Bidding Entity name that coincides with a CRR Holder Name.
1	Constraint ^P	Identifier of the transmission constraint that impacted the CRR portfolio due to virtual bidding
2	Hour ^P	Represents the trading hour (hour-ending) impacted by the CRR settlement rule due to virtual bidding
3	Total Flow	Denotes the total amount of flow (MW) impacted by the CRR settlement rule per Entity