



RMR and CPM Enhancements

**Stakeholder Conference Call
December 20, 2018**

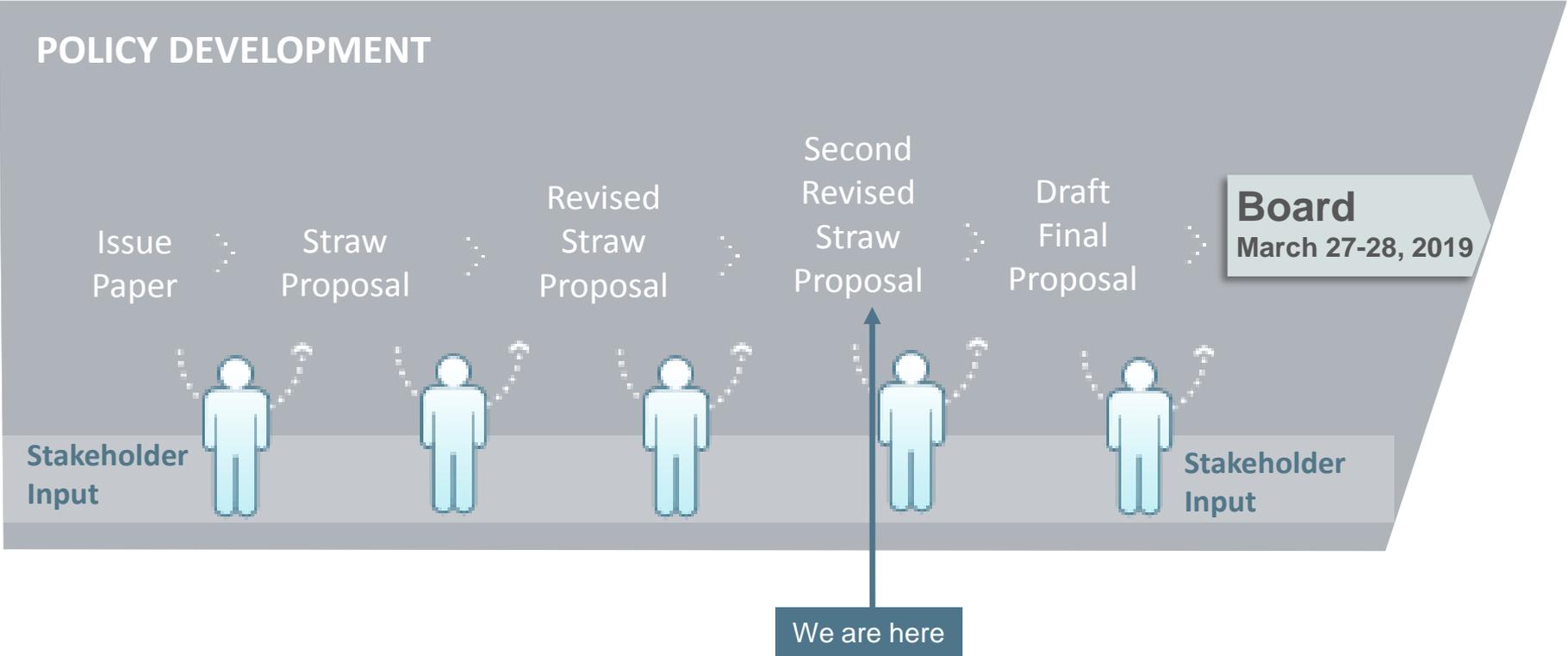
Keith Johnson
Infrastructure & Regulatory Policy Manager

Agenda

Time	Item	Presenter
10:00-10:15	1. Stakeholder process and general stakeholder comments	Jody Cross
10:15-11:30	2. RMR and CPM items <ul style="list-style-type: none"> a. Provide notice to stakeholders of resource retirements and mothballs b. Clarify use of RMR versus CPM procurement c. Merge ROR CPM and RMR procurement into one mechanism 	Catalin Micsa Keith Johnson
11:30-12:00	3. CPM items <ul style="list-style-type: none"> a. Change formula for price above soft-offer cap price 	Keith Johnson
12:00-1:00	Lunch break	(on your own)
1:00-2:55	4. RMR items <ul style="list-style-type: none"> a. Develop an interim pro forma RMR agreement b. Streamline and automate settlement process c. Align agreement and tariff authority for system and flexible needs d. Update rate of return e. Make subject to a MOO f. Consider making subject to RAAIM g. Consider whether both Condition 1 and 2 options are needed h. Allocate flexible RA credits i. Lower banking costs 	Keith Johnson Riddhi Ray Catalin Micsa Gabe Murtaugh
2:55-3:00	5. Next steps	Jody Cross

1. STAKEHOLDER PROCESS AND GENERAL STAKEHOLDER COMMENTS

Stakeholder Process



Schedule

	Date	Milestone
Milestones prior to Aug 27	Nov 2, 2017	ISO commits to review RMR and CPM
	Nov 3 – Aug 26	See Sept 19, 2018 revised straw proposal for milestones
Revised straw proposal	Aug 27	Hold working group meeting
	Sept 19	Post revised straw proposal
	Sept 27	Hold stakeholder meeting
	Sept 28	Discuss initiative at MSC meeting
	Oct 23	Stakeholder comments due on revised straw proposal
Second revised straw proposal	Nov 1	Hold working group meeting
	Dec 12	Post second revised straw proposal
	Dec 20	Hold stakeholder conference call
	Jan 10	Stakeholder comments due on second revised straw proposal
Draft final proposal	Jan 23	Post draft final proposal
	Jan 23	Post draft CPM and RMR tariff language
	Jan 25	Discuss initiative at MSC meeting
	Jan 30	Hold stakeholder meeting
	Feb 15	Post draft RMR pro forma agreement language
	Feb 22	Stakeholder comments due on draft final proposal
	Early Mar	Obtain opinion from MSC
Final proposal	Mar 27-28	Present proposal to Board of Governors
Implementation	Fall 2019	Implement in fall 2019 Release, effective 1/1/2020

Items to note

- Decisional classification
 - Will seek approval from only ISO Board of Governors
 - Initiative falls outside Energy Imbalance Market Governing Body's primary and advisory roles because does not seek changes to rules of real-time market or generally applicable rules of all markets
- Section 6 lists 10 changes from September 19, 2018 revised straw proposal
- Stakeholder comments are combined into one document at the following web page:
<http://www.caiso.com/Pages/documentsbygroup.aspx?GroupID=A3F2218A-3294-4949-AB04-B243216A58F5>
- If a stakeholder has general or new comments they what to make today, please do so at this point in the agenda

List of Acronyms

AFRR	Annual Fixed Revenue Requirement
AS	Ancillary Services
BCR	Bid Cost Recovery
CAISO	California Independent System Operator Corporation
CIRA	Customer Interface for Resource Adequacy
CPM	Capacity Procurement Mechanism
CPUC	California Public Utilities Commission
CSP	Competitive Solicitation Process
DEB	Default Energy Bid
ERR	Essential Reliability Resource
FERC	Federal Energy Regulatory Commission
GFFC	Going-forward fixed costs
GHG	Greenhouse gas
GMC	Grid Management Charge
ISO	California Independent System Operator Corporation
LSE	Load serving entity
MSC	Market Surveillance Committee
MSG	Multi-stage generator
MMA	Major maintenance adder
MOO	Must-offer obligation
O&M	Operation and maintenance
PGA	Participating Generator Agreement
RA	Resource Adequacy
RAAIM	Resource Adequacy Availability Incentive Mechanism
RAVE	Reliability Must-Run Application Validation Engine
RMR	Reliability Must-Run
ROR	Risk of retirement
RTO	Regional Transmission Organization
RUC	Residual Unit Commitment

2. RMR AND CPM ITEMS

2a. Provide notice to stakeholders of resource retirements and mothballs

- On July 6, first posted list of announced planned retirement and mothball resources
 - Posted at <http://www.caiso.com/Documents/AnnouncedRetirementAndMothballList.xlsx>
 - Item in Daily Briefing announces when list is updated with resources of 45 MW and above
 - Notices for resources less than 45 MW are shown in posted list but are not noticed in ISO Daily Briefing
 - Changes from previous posting are highlighted in yellow shading
 - Can change MW threshold in future if needed through BPM change management process

2b. Clarify use of RMR versus CPM procurement

- Will keep both RMR and CPM procurement mechanisms
- CPM procurement will be used to backstop RA program
- RMR procurement will be used to address resource retirements

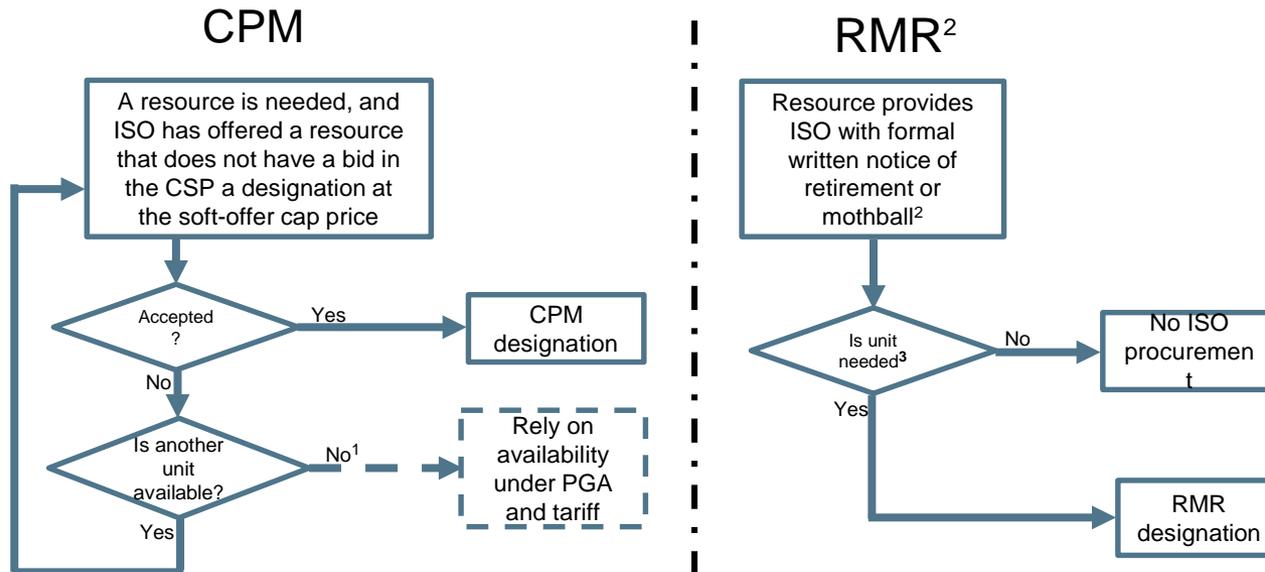
2b. Clarify (continued)

- RMR procurement will be based on full cost of service, as procurement is mandatory
- CPM procurement is
 - Voluntary if resource has not submitted a bid into CSP
 - If bid submitted in CSP and ISO accepts that bid, resource cannot decline designation
- All RMR and CPM resources will have a MOO and be subject to RAAIM (like RA resources are)

Use of RMR and CPM Procurement

Will keep both RMR and CPM procurement mechanisms

- CPM will be used to backstop the RA program
- RMR will be used to address resource retirements



¹ If resource declines a CPM designation offered, ISO would rely on resource availability under the PGA and tariff unless resource falls under RMR process

² ISO will have authority to study reliability needs for upcoming year and year after, and has discretion to study year after if ISO believes that resource may be needed in year after even if resource is found to not be needed in upcoming year

³ For ISO study for a potential RMR designation, all available resources are used in the analysis

To be considered for RMR designation, a resource must submit a formal written retirement notice to ISO

- Notice must include an affidavit by an officer attesting
 - Resource will not remain in service absent procurement, and
 - Decision to retire is definite unless some other type of ISO procurement of resource occurs, resource is sold to a non-affiliated entity, or resource enters into an RA contract
- Must state planning to retire/mothball at certain date, but no earlier than 90 days from notice of removal of resource from PGA or termination of PGA
- Expect resource to also notify CPUC, if applicable

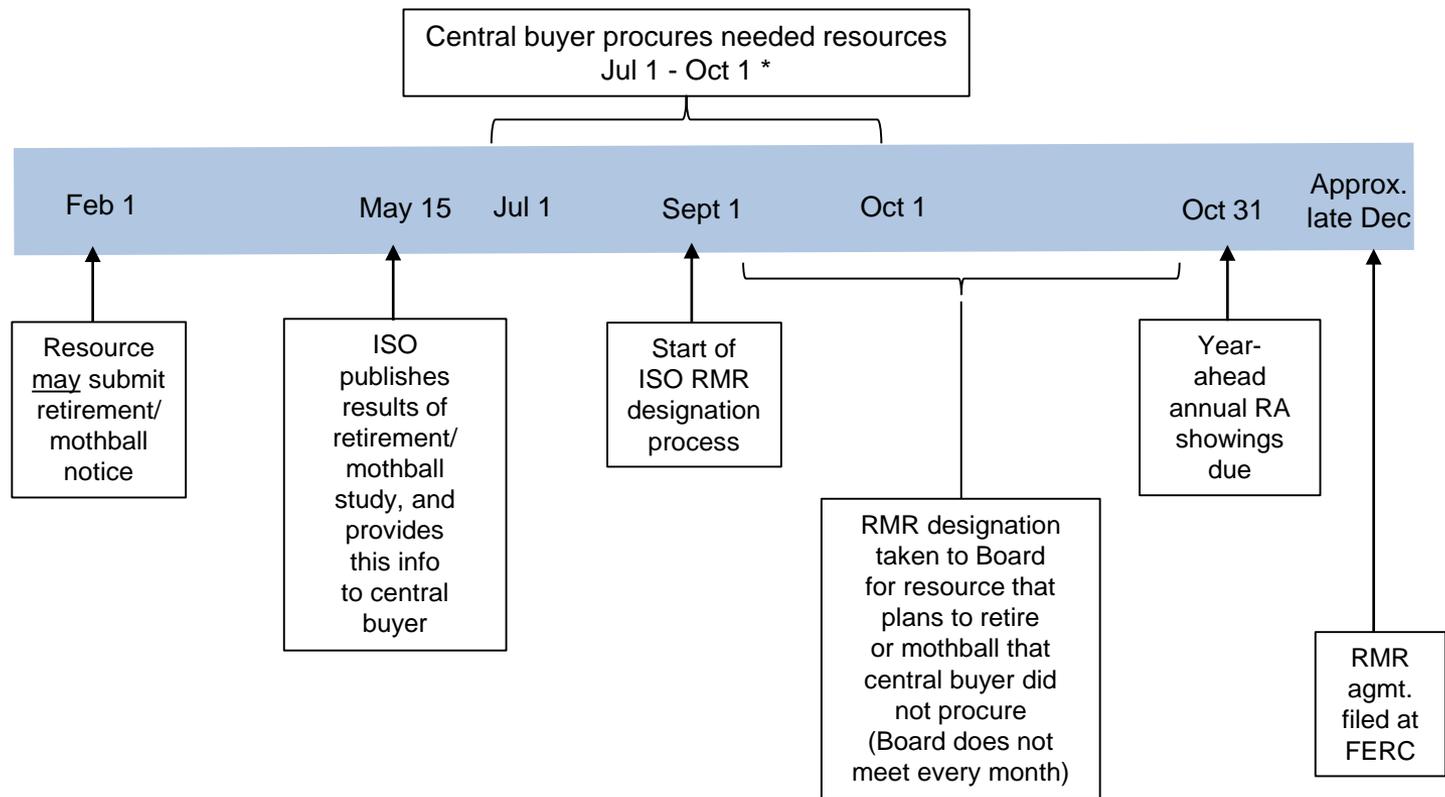
New elements to make process more orderly, mitigate impacts on RA program and provide longer runway

- If not RA in current RA year and planning to retire/mothball
 - Can submit notice at any time during year and ISO will inform resource of study results promptly
 - If want to obtain longer runway to make retirement decisions, resource can submit notice before PGA deadline

New elements (continued)

- If RA in current RA year and planning to retire/mothball
 - If want longer runway, may submit notice by Feb 1 of current RA year, ISO will study/inform all stakeholders of results by May 15
 - by May 15 resource will know if needed next year, i.e., a long runway
 - ISO will not start its RMR procurement process for such resource until September 1, which allows several months for procurement by an entity other than ISO through RMR
 - If resource provides notice after Feb 1, only commitment ISO will have is to inform resource of study results within 60 days prior to expiration of RA contract or 90 days of request, whichever is later

Timeline of RMR Retirement Procurement and RA Process



* Estimated. CPUC has not yet decided the time period for procurement.

Several stakeholders commented

- Should delay this initiative for up to six months to allow CPUC RA proceeding to play out
 - ISO believes scope of CPUC RA proceeding is sufficiently different from this initiative to allow this initiative to proceed independently, and
 - Important CPM/RMR enhancements be put in place ASAP
- Should change notification period from current 90 days to be as much as 365 days
 - ISO is not changing period from current period
 - Changing period would not resolve concerns with potential front-running of RA program

Stakeholder comments (continued)

- RMR designations should not be given to resources that are economic – ISO should establish an economic test
 - ISO notes no other ISO or RTO currently has such a test in place
 - Do not believe such a test is appropriate for CAISO
- Should employ a market power mitigation test, such as a pivotal supplier test, for both CPM and RMR designations
 - ISO believes there is no need for a new test
 - FERC has already approved market power mitigation mechanisms for both CPM (soft-offer cap pricing) and RMR (cost of service pricing)

Stakeholder comments (continued)

- Compensation for CPM and RMR should be changed to be generally only GFFC
 - ISO does not agree that CPM or RMR compensation needs to be fundamentally changed – already found by FERC to be just and reasonable
 - FERC approved CPM compensation just three years ago
 - There is much FERC precedent for paying RMR resources traditional cost of service as currently reflected in RMR contract
- There should not be an adder when calculating a CPM price
 - ISO notes that FERC stated in its 2010 CPM order that including only a 10% adder to GFFC is not sufficient to allow for a contribution to capital

2c. Merge ROR CPM and RMR procurement into one mechanism

- Retirement procurement authority, what was formerly known as ROR CPM, will be merged into one mechanism under RMR tariff and receive RMR contract
 - Will move to RMR tariff backstop authority currently reflected in ROR CPM tariff
 - Will eliminate current ROR provisions under CPM tariff
- ISO can designate as RMR for upcoming year a resource that is needed before the end of the following year
- Length of procurement will remain a maximum of one year, as it is now under ROR CPM tariff

3. CPM ITEMS

3a. Change formula for price above soft-offer cap price

- ISO proposes to retain three current pricing options for CPM designations
 - Can submit bid in CSP (if bid selected, designation is not voluntary)
 - Can be paid soft-offer cap price of \$75.68/kW-year if no bid in CSP (resource can decline designation)
 - Can bid price higher than soft-offer cap price in CSP and file at FERC for approval of price (if bid selected, designation is not voluntary)

Current CPM Compensation Components

Bid into CSP (at or below \$75.68 kW-year)

<p><u>Market Rents</u> Resource keeps all market rents earned</p>
<p><u>BID</u></p> <p>Price bid into CSP</p> <ul style="list-style-type: none">• Price is consider “good” (safe harbor) if the price bid is below soft-offer cap price of \$75.68 kW-year

Soft-Offer Cap Price (\$75.68 kW-year)

<p><u>Market Rents</u> Resource keeps all market rents earned</p>
<p><u>20% Adder</u></p>
<p><u>Going Forward Fixed Costs</u></p> <p>Which is the sum of the amounts shown below for the reference unit specified in CPM tariff:</p> <ul style="list-style-type: none">• Fixed O&M costs• <i>Ad valorem</i> costs• Insurance

Above Soft-Offer Cap Price (above \$75.68 kW-year)

<p><u>Market Rents</u> Resource keeps all market rents earned</p>
<p><u>Cost of Service</u></p> <p>Amount determined using cost of service methodology in Schedule F of Appendix G of RMR agreement</p> <ul style="list-style-type: none">• Methodology does <u>not</u> include major maintenance capital expenditures

Note that under all CPM designations resources keep market rents earned

Proposed change to pricing formula for a resource that files for a CPM price above the soft-offer cap price

- Can file at FERC based on GFFC of its resource using same cost categories and same 20% cost adder used for CPM reference resource
 - *Ad valorem* costs
 - Insurance costs
 - Fixed operation and maintenance costs
- Will continue to keep all market rents earned

Proposed change (continued)

- Using 20% adder
 - Parallels existing, FERC-approved CPM soft-offer price cap formula
 - Is consistent with prior FERC directives that CPM price should provide for some contribution to fixed cost recovery to facilitate incremental upgrades and investments by resources
- Pricing formula results in CPM using a GFFC approach and RMR using cost of service approach (consistency)
- In 2019 ISO will commence a stakeholder process to assess CPM soft offer cap, including performing a cost study, in accordance with tariff section 43A.4.1.1.2

Pricing formula for bid above Soft-Offer Cap Price

Type of CPM Designation	Price used to determine Payment
System monthly System annual Local monthly Local annual Local annual collective deficiency Cumulative flexible monthly Cumulative flexible annual Significant Event Exceptional Dispatch	<ol style="list-style-type: none"> 1. Price bid into CSP – there is a “safe harbor” price at or below \$75.68/kW-year soft-offer cap price 2. If no bid in CSP - ISO may offer resource soft-offer cap price of \$75.68/kW-year (and resource can decline designation if it chooses) 3. Can submit bid above soft-offer cap price - based on GFFC of its resource using same cost categories and same 20% cost adder used for reference resource that established soft-offer cap price and resource keeps all market rents earned * <p style="text-align: center;">* Proposed formula</p>

Some stakeholders have suggested different formulas for a price above the soft-offer cap price

- GFFC of resource and no cost adder and keep all market rents earned, or GFFC of resource with some small adder and claw back all market rents earned
 - ISO does not believe either approach is consistent with prior FERC direction regarding CPM compensation
 - FERC has stated there needs to be some adder to allow for a contribution to capital

4. RMR ITEMS

4a. Develop an interim pro forma RMR agreement

- Filed at FERC on August 31
- On October 29, 2018, FERC approved interim change to pro forma RMR agreement
 - Effective September 1, 2018 applies to new RMR designations
 - Allows ISO to terminate interim form of agreement effective at end of contract year and immediately re-designate under new substantive RMR agreement for following contract year
 - Right to immediately re-designate would not apply to RMR resources under RMR agreements currently in effect

4b. Streamline and automate settlement process

Vision

Align RMR implementation to extent possible with ISO tariff and RA/CPM paradigm for bidding, dispatch, penalties/incentives, settlements, and payment to streamline RMR functionality for efficient market and reliability systems operation and maintenance

Contract Initiation and FERC Anti-Toggling Expectation Mechanism to minimize market impact

- RMR utilized for retirement/mothball of required capacity
- Proposal to eliminate RMR owner right to elect Condition 1
- ISO RMR contract principles
 - Compensation based book value and cost of service and FERC ratemaking principles
 - New major capital maintenance cost recovery for operating year
 - Recovery of unrecovered cost of approved Capital Items
 - Must close within six months of RMR termination
 - At FERC interest rate
 - Paid over 36 months
 - Payback if return to service within 36-month period

RMR treated like RA/CPM in ISO systems

Key elements of Paradigm Shift

- MOO for RMR resources enables use of market and reliability mechanisms to dispatch resources as needed
- RMR represented in CIRA and presented to ISO systems as reliability capacity
- SIBR RA/CPM bidding rules would apply
 - Major maintenance/opportunity cost adders used, as applicable
 - \$0 bids for RUC
- Bid Cost Recovery to ensure variable cost recovery
- Leverage established settlement process and infrastructure

RMR Compensation

Align with RA/CMP simplicity and incentives

- Fixed costs recovery through CPM style monthly payments
- New charge code for RMR Schedule F define fixed costs
- RAAIM in lieu of hourly availability payment incentive
- RMR variable energy and startup cost recovery through Bid Cost Recovery mechanism
- Market revenues above variable costs subject to credit against Monthly Fixed payment amounts.
- Resource retains RAAIM incentive amounts

Dispatch for Reliability

Maximize Efficiency Utilizing Market Optimization

- RMR will be included in pool of reliability capacity with RA and CPM capacity available to meet reliability needs identified either through market optimization, contingency/voltage analysis or other reliability analysis tools
- RMR dispatch will no longer be identified distinctly with respect to other types of dispatches
- RMR resources will be subject to Exceptional Dispatch without additional compensation as needed for dispatch required and not identified by market optimization or power flow analysis

Settlement, Invoicing and Validation

Maximize Use of Existing Capability

- Use ISO Market Settlement System
- Eliminate RMR owner submitted Excel based invoices
- Eliminate RAVE and manual validation of RMR invoice
- RMR market energy revenues remain subject to default credit risk
 - Energy revenues are subject to a credit of any market revenue amounts above RMR unit variable cost to applicable Responsible Utility
 - New charge code to track credit
- Replace RMR payment calendar/dispute process and use market settlement timeline/dispute process

What validation will look like

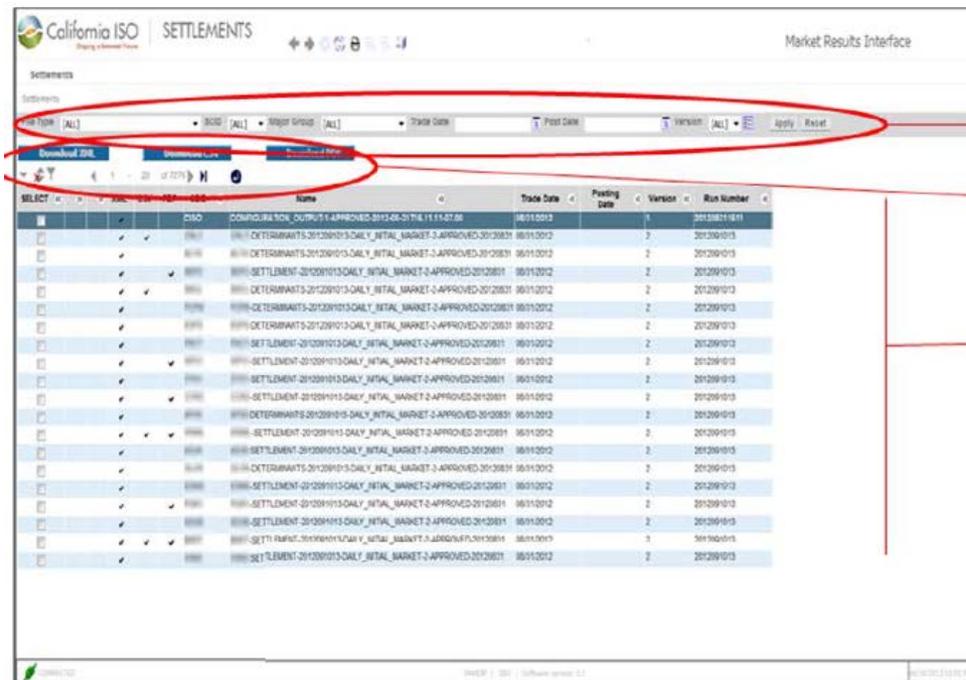
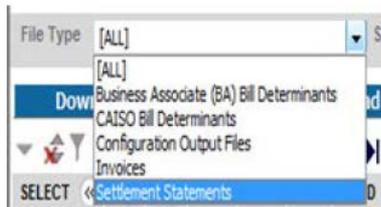
1 Search Parameters

This section contains a set of parameters available for user interaction, to provide an opportunity to limit the output of a report. For example, if a user would like to see the files specific to a trade date, then the specific trade date can be entered in the Trade Date field.

File Type

This parameter is used to narrow down the search based on the file types. The file types available are:

- Business Associate Bill Determinants
- CAISO Bill Determinants
- Configuration Output Files
- Invoices
- Settlements Statements



Search Parameters

Toolbar

Search Results

Information available to validate invoice

MPP Home System Integration Discussions

Applications

-  **AIM** Access and Identity Management
-  **CIDI** Customer Inquiry Dispute and Information
-  **CIRA** Customer Interface for Resource Adequacy
-  **CMRI** Customer Market Results Interface
-  **Master File**
-  **OASIS** Open Access Same-Time Information System
-  **RIMS** Resource Interconnection Management System

Applications below require separate log on

Alerts, Warnings & Emergencies

- [No active notices](#)
- [More...](#)

Market Notices

- 10/22/2018
- [October 2018 Significant Event Capacity Procurement Mechanism Designation Report Posted](#)

Welcome to the California ISO Market Participant Portal,
 the centralized access point for secure applications and business critical information.



Market Operations

[Market Status](#) [Market Event Log](#) [System Operating Messages](#)

Day Ahead Market

Select Trade Date

Bids & Schedules	Inter SC Trades
PUBLISHED	PUBLISHED

Hour Ahead and Real Time Market

Select Trade Date

Hour Ending	Bids & Schedules	Inter SC Trades
15	PUBLISHED	PUBLISHED
16	CLOSE	PUBLISHED
17	OPEN	PRE_CLOSE
18	OPEN	PRE_CLOSE

Meetings and Training Calendar

- Monday, 10/22/2018
-  11:00 AM - 12:00 PM  [Documentation Consolidation for Operating Procedures](#)
 -  2:00 PM - 3:00 PM  [Market Simulation - Fall 2018 Release](#)

What payment calendar will look like



CAISO Payments Calendar January 1, 2018 through December 31, 2018

Calendar Date	Day	Publish Initial Statement Publish Day-Ahead Price Corrections T+3B	Publish Real-Time Price Corrections T+5B	Receive End-Use Meter Data, Manual Submission of non-PTO Wheeling Data T+8B	Publish Recalculation Statement T+12B	End of SC Review Period T+26B	Receive End-Use Meter Data (to include non-PTO load) T+48B	Publish Recalculation Statement T+55B	End of SC Review Period T+77B	Meter Data Resubmittal Deadline (to include non-PTO load) T+8M (as T+172B - T+168B), optional Subject to Rule of Conduct	Publish Recalculation Statement T+9M (as T+194B), optional	End of SC Review Period for Incremental Changes T+216B, if applicable
1-Jan-18	Monday											
2-Jan-18	Tuesday	12/27/2017	12/22-12/25/2017	12/19/2017	12/13/2017	11/21/2017	10/20-10/22/2017	10/11/2017	09/11/2017	04/26-05/02/2017	03/27/2017	02/23/2017
3-Jan-18	Wednesday	12/28/2017	12/26/2017	12/20/2017	12/14/2017	11/22-11/26/2017	10/23/2017	10/12/2017	09/12/2017	04/27-05/03/2017	03/28/2017	02/24-02/26/2017
4-Jan-18	Thursday	12/29-01/01/2018, Dec 2017 Monthly	12/27/2017	12/21/2017	12/15-12/17/2017	11/27/2017	10/24/2017	10/13-10/15/2017	09/13/2017	04/28-05/04/2017	03/29/2017	02/27/2017
5-Jan-18	Friday	01/02/2018	12/28/2017	12/22-12/25/2017	12/18/2017	11/28/2017	10/25/2017	10/16/2017	09/14/2017	05/01-05/07/2017	03/30/2017	02/28/2017, Feb 2017 Monthly
6-Jan-18	Saturday											
7-Jan-18	Sunday											
8-Jan-18	Monday	01/03/2018	12/29-01/01/2018	12/26/2017	12/19/2017	11/29/2017	10/26/2017	10/17/2017	09/15-09/17/2017	05/02-05/08/2017	03/31-04/02/2017, Mar 2017 Monthly	03/01/2017
9-Jan-18	Tuesday	01/04/2018	01/02/2018	12/27/2017	12/20/2017	11/30/2017, Nov 2017 Monthly	10/27-10/29/2017	10/18/2017	09/18/2017	05/03-05/09/2017	04/03/2017	03/02/2017
10-Jan-18	Wednesday	01/05-01/07/2018	01/03/2018	12/28/2017	12/21/2017	12/01-12/03/2017	10/30/2017	10/19/2017	09/19/2017	05/04-05/10/2017	04/04/2017	03/03-03/05/2017
11-Jan-18	Thursday	01/08/2018	01/04/2018	12/29-01/01/2018	12/22-12/25/2017	12/04/2017	10/31/2017	10/20-10/22/2017	09/20/2017	05/05-05/11/2017	04/05/2017	03/06/2017
12-Jan-18	Friday	01/09/2018	01/05-01/07/2018	01/02/2018	12/26/2017	12/05/2017	11/01/2017	10/23/2017	09/21/2017	05/08-05/14/2017	04/06/2017	03/07/2017

Timelines are PT (Pacific Time) except as noted

Publish Recalculation Statement T+18M (as T+383B), optional	End of SC Review Period for Incremental Changes T+19M (as T+405B), if applicable	Publish Recalculation Statement T+33M (optional) as T+693B	End of SC Review Period for Incremental Changes T+715B, if applicable	Publish Recalculation Statement T+36M (as T+759B), optional	Publish Weekly Invoice (by bill period)	Weekly Invoice Due by 10:00am for Disbursement at 2:00pm T+4B
06/23/2016	05/23/2016	04/02/2015	03/03/2015	12/26-12/28/2014		
06/24-06/26/2016	05/24/2016	04/03-04/05/2015	03/04/2015	12/29/2014	T+3B Initial: 12/22-12/26/2017, T+33M Recalc: 03/01-03/31/2015	T+3B Initial: 12/18-12/21/2017, T+12B Recalc: 12/04-12/10/2017
06/27/2016	05/25/2016	04/06/2015	03/05/2015	12/30/2014		
06/28/2016	05/26/2016	04/07/2015	03/06-03/08/2015	12/31-01/01/2015, Dec 2014 Monthly		
06/29/2016	05/27-05/30/2016	04/08/2015	03/09/2015	01/02-01/04/2015		
06/30/2016, Jun 2016 Monthly	05/31/2016, May 2016 Monthly	04/09/2015	03/10/2015	01/05/2015		T+3B Initial: 12/22-12/28/2017, T+33M Recalc: 03/01-03/31/2015
07/01-07/04/2016	06/01/2016	04/10-04/12/2015	03/11/2015	01/06/2015	T+3B Initial: 01/01-01/07/2018, T+3B Initial: 12/01-12/31/2017, T+12B Recalc: 12/18-12/21/2017, T+12B Recalc: 12/11-12/17/2017, T+9M Recalc: 03/01-03/31/2017, T+18M Recalc: 06/01-06/30/2016, T+36M Recalc: 12/01-12/31/2014	
07/05/2016	06/02/2016	04/13/2015	03/12/2015	01/07/2015		
07/06/2016	06/03-06/05/2016	04/14/2015	03/13-03/15/2015	01/08/2015		

4c. Align agreement and tariff authority for system and flexible needs

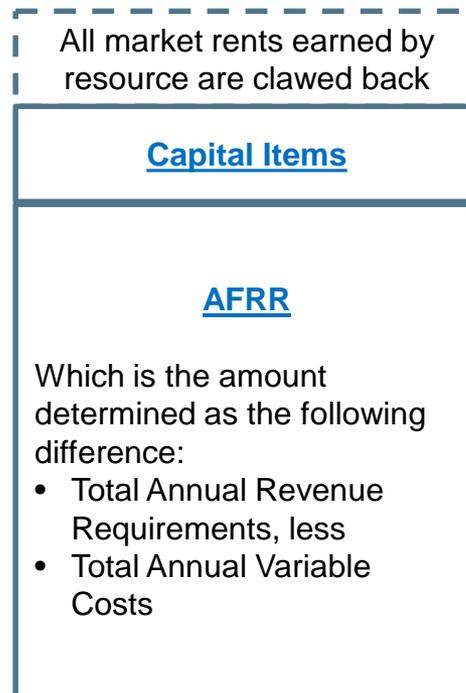
- Tariff already provides authority through RMR to meet Applicable Reliability Criteria
 - Which includes meeting system, local and flexible needs
 - To date, authority has been implemented for local needs
- RMR pro forma agreement (versus the tariff) currently does not reflect existing system and flexible authority
- Propose to change pro forma RMR agreement so existing RMR tariff authority and language in pro forma RMR agreement are aligned

Tariff section 41 provides authority to designate to meet any NERC, WECC or ISO established compulsory standards that otherwise cannot be met without RMR designated resources

- 41.2 provides “The CAISO will have the right at any time based upon CAISO Controlled Grid technical analyses and studies to designate a Generating Unit as a Reliability Must-Run Unit.”
- 41.3 provides “In addition to the Local Capacity Technical Study under 40.3.1, the CAISO may perform additional technical studies, as necessary, to ensure compliance with Reliability Criteria.”
- Appendix A defines Reliability Criteria as “Pre-established criteria that are to be followed in order to maintain desired performance of the CAISO Controlled Grid under Contingency or steady state conditions.”

4d. Update rate of return

ISO does not propose to change major components of RMR compensation, which are shown below



Resource paid 100% of its AFRR

* RMR agreements also include a Termination Fee that may be owed to resource owner under certain circumstances.

The ISO proposes to remove the fixed rate of return currently in RMR pro forma agreement

- Current pre-tax rate of return is “hard-wired” into pro forma RMR agreement at 12.25%
- Value has not changed in many years, despite changing economic conditions and corporate tax rates
- ISO proposes to remove specific 12.25% from pro forma tariff language

Rate of return proposal

- Resource owners filing an RMR agreement will be required to specify and support a rate of return
 - Support may include expert conducting a discounted cash flow model and risk analysis
- This approach meets objectives of
 - Updating current rate (it removes current “hard wired” fixed rate)
 - Establishing a mechanism so rate can change over time to reflect current conditions as new RMR agreements are filed

4e. Consider making subject to MOO

- RMR resources will have a 24x7 MOO and will be:
 - Paid full cost of service
 - Will submit cost-based bids into energy and AS markets
 - All market rents earned above variable costs are clawed back
 - All RUC revenues above \$0 are clawed back
 - ISO will insert cost-based bids if no bids are inserted by resource
 - May be instructed by ISO to not run

The ISO currently creates ISO-generated bids for RA and CPM resources that have not bid into market

- ISO-generated bids include
 - Start-up costs
 - Minimum load costs
 - Energy costs
 - MSG transition costs (registered default values)
- ISO-generated energy bids include
 - Fuel Costs
 - O&M
 - GHG Costs
 - GMC
 - Opportunity Costs
- ISO-generated AS bids are at \$0/MWh
- ISO-generated RUC bids translate to \$0 offers

Treatment of MMAs, opportunity costs and BCR in RMR bids

- MMAs and opportunity costs, if applicable, will be reflected in bids to ensure true cost of operation is considered in market decisions
 - Actual MMA costs will be compensated as they are incurred, similar to current RMR construct
 - Any market revenues from MMAs bid into market will be clawed back to prevent double recovery of these costs
 - Market revenues from bid opportunity costs will also be clawed back
- Resources with RMR agreements will be eligible for BCR payments when market earnings are insufficient to cover fuel costs

RMR resources will be required to bid into the market at total cost, including variable, MMA and opportunity costs

Opportunity Costs

Calculated or negotiated values for use-limited resources if applicable

Major Maintenance Adders

Negotiated values based on costs

Variable Costs (DEB)

Calculated similar to the DEB with inputs specified in Master File data including:

- Heat rate
- Fuel Costs
- O&M
- GHG Costs
- GMC

- Variable costs are compensated through energy market revenues
- Actual costs of major maintenance are compensated for RMR resources
- Opportunity costs are not compensated

4f. Consider making subject to RAAIM

- RA, CPM and RMR resources provide capacity to operate grid; therefore, incentives and penalties should be similar
- Current RMR availability payment construct does not provide an incentive to submit bids
- Having RMR resources have separate incentives and requirements would create inconsistencies and add unnecessary complexity to systems and processes

RMR resources will be subject only to RAAIM mechanism

- Will delete current Non-Performance Penalty and Long-term Planned Outage Adjustment provisions
- Penalty price will be RMR agreement price
 - Like is currently done for CPM resource paid a price above soft-offer cap
 - Fixed costs and major maintenance capital expenditures will both be “at risk”
- Will apply current RAAIM availability standard of 96.5% per month
- Will apply current RAAIM availability range of plus and minus two percent (94.5%-98.5%)

RAAIM provisions (continued)

- RMR resources will be treated just like RA and CPM resources currently are treated
 - Resource can receive a non-availability charge for month if above performance band
 - Resource can receive an availability incentive payment for month, with payment paid to resource owner
 - ISO systems provide ability for RMR resources to take outages without being subject to RAIM charges

ISO recognizes that some stakeholders do not support using RAIM “as is”

- Some stakeholders advocate for a different performance mechanism than RAIM
- ISO proposes to deal with this concern by
 - Better describing to stakeholders how ISO’s outage process can address the concern
 - If stakeholders still believe different approach should be used for RMR resources, ISO will assess this in RA Enhancement initiative which is considering possible changes to resource performance mechanism

Several stakeholders commented

- Should employ 24x7 assessment hours for RAAIM
 - ISO proposes to use current assessment hours and requirements to streamline and automate use of RA, CPM and RMR resources
 - Enhancements to RAAIM, if needed, can be considered in RA Enhancements initiative
- Should not use standard RAAIM performance metric; instead should create custom metric with no dead band
 - ISO proposes to use current requirements to streamline and automate use of RA, CPM and RMR resources
 - RA, CPM and RMR resources should be treated similarly
- RAAIM assessment hours might not result in RMR resource being available when RMR service is needed
 - ISO believes resource can be managed so that resource is available when needed

4g. Consider whether both Condition 1 and 2 options are needed

- Revised straw proposal stated
 - Propose to change tariff so resource owner no longer can choose whether it wants to be a Condition 1 or 2 RMR resource
 - Default will be full cost of service agreement where resource will have its full cost of service paid and must credit back all market rents earned above full cost of service (Condition 2)
 - By mutual agreement, a resource may be able to negotiate an agreement where resource is not paid its full cost of service and may keep market rents earned above its full cost of service (Condition 1)
 - Requested feedback on whether to retain Condition 1 RMR option for use at ISO's discretion or simplify RMR and only provide Condition 2 option

Received the following feedback on whether to eliminate or retain Condition 1 option

- Recommend eliminating
 - CPUC Energy Division
 - PG&E
 - SCE
 - Six Cities
- Recommend retaining
 - Calpine

Propose to eliminate the Condition 1 option

- Revised tariff and pro forma agreement will no longer offer option of having Condition 1 features
- Agreement will be revised to reflect full cost-of-service approach with credit back of market rents above costs, similar to Condition 2 option in current agreement
- Believe it is appropriate to eliminate Condition 1 option
 - As it creates appropriate incentives
 - Simplifies RMR structure
 - Provides clear separation between CPM and RMR compensation
 - Aligns with proposal for RMR resources to have a MOO

4h. Allocate flexible RA credits

- Would not automatically qualify for flexible RA credits
- To qualify RMR resource must
 - Have approved Effective Flexible Capacity value that qualifies unit as eligible to provide flexible RA capacity
 - RMR agreement will specify that as a default the resource must agree to fulfill RA flexible capacity requirements
- Credits would continue to be allocated as today
- RMR capacity would be taken off top of flexible requirement

4i. Lower banking costs

- Current process
 - Requires minimum of two bank accounts for each RMR agreement (more if multi-party)
 - RMR accounts have zero balances at all times since disbursements are made the same day as receipt of payments
- Propose to use ISO's established market clearing account to administer RMR transactions
 - Going forward, all payments from and disbursements to RMR parties will be made from this account
 - RMR funds will still be tracked individually
 - Invoices/payment advices are cleared on specified due dates

There are several advantages of using market clearing bank account

- Reduces costs
 - By using only one bank account instead of multiple accounts (ISO pays fixed fees to maintain each RMR account)
- Minimizes potential bank fraud
 - By using only one account as opposed to multiple accounts
- Reduces administrative burden
 - Each RMR account has to be monitored, reconciled and verified
- Eliminates confusion
 - RMR participants do not have to choose from a list of bank accounts when submitting payments

5. NEXT STEPS

Next Steps

Date	Milestone
Jan 10	Stakeholder written comments due on second revised straw proposal
Jan 23	Post draft final proposal for initiative
Jan 23	Post draft CPM and RMR tariff language

Stakeholders are encouraged to submit written comments by January 10 to initiativecomments@caiso.com; use template available at following link:

http://www.caiso.com/informed/Pages/StakeholderProcesses/Review_ReliabilityMust-Run_CapacityProcurementMechanism.aspx