



California ISO

Reliability Must-Run and Capacity Procurement Mechanism Enhancements

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This presentation covers enhancements to the RMR program with the Fall 2019 release.

- Background
- Supplier (RMR Owners and Scheduling Coordinators)
 - Bidding requirements
 - Market rules
 - Outage rules
 - RMR and RA
 - Settlements
- Load Serving Entities (Scheduling Coordinators)
 - Settlements
- System Impacts

RMR CPM Enhancements – “The primary focus of this initiative was (1) ‘modernizing’ the RMR agreement, (2) combining all retirement-related backstop procurement under RMR, and (3) clarifying when the ISO would use its RMR versus CPM backstop procurement authority.”

(from March 2019 Memo to the ISO Board of Governors)

Impacts

Systems

- CIRA
- SIBR
- IFM/RTM
- Settlements

BPMs

- Generator Management
- Market Operations
- Market Instruments
- Reliability Requirements
- Settlements

SUPPLIERS (RMR OWNERS AND SCS)

Scope and Terminology

Type	Known as	Description	Comments
Reliability Must Run	New-Tariff RMR RMR	RMR contracts effective on or after 9/1/18.*	<ul style="list-style-type: none"> • Used only for retirements • Will align with existing RA market rules
Reliability Must Run	Legacy RMR RMRL	RMR contracts effective prior to 9/1/18.	<ul style="list-style-type: none"> • No change for these types of contracts
Capacity Procurement Mechanism	CPM		<ul style="list-style-type: none"> • Addresses RA needs • Details will be offered under the Soft Offer Cap initiative

* There are currently no active “interim” RMR agreement requiring conversion on 1/1/20.

Retirement/Mothball procurement authority

- Submit a formal notification and notarized attestation to the ISO
 - From an officer of the company
 - Supplies the reason for the retirement/mothball
 - Attests that the decision is definite unless
 - the ISO procures the resource
 - The resource is sold to a non-affiliated company
 - The resource enters into an RA or some other contract
- Find submittal timelines in the BPM

For more details regarding this refer to the [BPM for Generator Management](#)

RMR bidding requirements align with RA rules:

- RMR resources will be subject to the Must Offer Obligation rules (MOO) for day-ahead and real-time (24x7).
 - SC must submit actual cost bids up to the RMR capacity, including any applicable major maintenance adder (MMA) or opportunity costs (OC)
 - Any excess to the cost will be clawed back during settlement, which includes MMA and OC
 - ISO will automatically insert bids up to the RMR capacity based on actual costs (excludes those resources with use limitations or having completely substituted their RMR/RA MW obligation via CIRA) if no bid submitted
- RMR resources must participate in the RUC market with RUC and AS Bids = \$0/MWh

RMR market rules align with RA rules

- RMR resources will be mitigated in the same manner as RA resources are today
- RMR resources will be dispatched like other RA market resources (with RMR exceptional dispatch instruction types reserved for only Legacy RMR resources)
- RMR resources will no longer be flagged when dispatched after day-ahead market in conformed dispatch notice (CDN) or with RMR Dispatch Flag set in Real-Time by ADS (they are treated like all other RA units)

Outage Coordination

- Resources that undergo physical limitations below RMR capacity will need to submit Pmax outage derates in OMS to their new MW capability until the end of (Master File changes to Pmax requires contract termination or re-negotiation)
- Resources that apply under the new RMR tariff provisions will be eligible for RAIM incentives/penalties
 - Legacy RMR Resources will remain ineligible for RAIM (no changes)
 - Use-limited RMR Resources may receive exemption from RAIM through submission of outage tickets with the appropriate nature of work.

Resource Adequacy and CIRA

- Within CIRA, RMR capacity will be reported as RA capacity for operations unless explicitly defined as separate.
 - RMR capacity shall provide local*, system and flex RA MW, with credit
 - LSEs shall automatically receive non-transferrable RMR local, system, and flex RA credits from RMR resources on the basis of their forecasted pro-rata demand forecast (over one or more TAC Areas)
 - RA resources may be used for forced or planned substitution to cover an RMR obligation (like RA rules).
 - RMR resources cannot be used as a substitute resource

* Resource is treated as listed local RA if located in local area (providing a comprehensive benefit from contract)

RMR local vs. system reliability example

All RMR capacity under the revised tariff shall provide all available benefits to the market. For example, an RMR resource that resides in a local area but is procured to address system reliability needs will still provide the added benefit of local reliability capacity (in fact, it will be automatically listed as Local by the ISO). If the resource does not reside in a local area, it's capacity will entirely benefit system needs (for generic RA). In this way, all the RMR resource capacity will be identified by CIRA as either local or system ("local" being allowed to support system needs as well) as shown below:

Scenario Case	Resource ID	Pmax	Reliability Need/Reason	Located in a Local Area?*	NQC	EFC	Generic RMR RA - Local RMR Obligation	Generic RMR RA - System RMR Obligation	Flex RMR RA - Local RMR Obligation	Flex RMR RA - System RMR Obligation
1	Resource 1	10	Local	Y	10	10	10	0	N/A	10
2	Resource 2	20	System	Y	20	20	20	0	N/A	20
3	Resource 3	30	System	N	30	22	0	30	N/A	22
4	Resource 4	40	Flex**	N	40	35	0	40	N/A	35
5	Resource 5	50	Flex**	Y	50	50	50	0	N/A	50

* RMR resources will be automatically Listed Local, regardless of reliability reason, if located in a Local Area (e.g. Bay Area, LA Basin, San Diego-IV, etc.)

** Flex always applies to System RMR RA.

Settlements also aligns with RA rules

- RAAIM
- New charge codes for capacity payments
- Market revenue clawbacks for market rents above actual cost, major maintenance adders (MMA) and opportunity costs (OC).
- Settlement process
 - RMR is settled through the ISO settlements calendar
 - Legacy RMR continues to use current invoicing process
- Eligible for bid cost recovery

Settlements

- Variable energy opportunity cost adders will reduce the bid cost per MWh assessed in BCR
- Revenues in excess of qualified costs will be subject to claw back.
 - Excess revenue will be subtracted from capacity payments.
 - Qualified costs is the bid cost less the variable energy cost opportunity cost adder.
- Opportunity cost and major maintenance adders reduce commitment costs. These include start up, minimum load, and transition costs adjustments under IFM, RUC and RTM markets.

Settlements (continued)

- New Daily RMR Capacity Cost Payment (CC 7020)
 - Settle capacity payment costs to RMR resources
- Remove risk of retirement from Monthly CPM Settlement (CC 7891)
- RAIM pre-calculation
 - Includes daily RMR contract price

LOAD SERVING ENTITIES

Settlements

- **New Daily RMR Capacity Cost Allocation (CC 7026)**
 - Allocate capacity RMR payment costs to LSEs
 - Cost allocation on the basis of annual forecasted demand
 - Annual Forecast demand for all months
 - Monthly bill based on forecasted demand performed during annual assessment.
 - Cost Allocation factors determined by TAC area, by LSE based on forecasted demand, not actual.
 - Costs are applied to those LSEs benefiting from RMR capacity
 - LSEs receives non-transferable RA credit from RMR procurement (generic and flex)
- **Remove risk of retirement from Monthly CPM Allocation (CC 7896)**

MARKET SIM SCENARIOS

Market Sim Scenarios for new tariff RMR resources

Scenario	Description
1	DAM Dispatch of RMR Resources
2	RTM Dispatch of RMR Resources
3	RMR Resource Substitution – Suppliers to validate planned outage substitution obligation use limited or regular
4	RMR Resource Substitution – Suppliers to validate planned outage substitution obligation for new outages used limited or regular
5	RMR Resource Substitution – Suppliers create planned outage substitution for use limited or regular
6	RMR Resource Substitution – Supplier submits forced outage substitution
7	Manual Dispatch for RMR Resources

Refer to the Market Simulation Structured Scenarios for details regarding these scenarios.

<http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx>

SYSTEM CHANGES

Systems changes

- CIRA
 - New features to qualify and allocate capacity for RMR units
 - Apply Flex RA credit by TAC area (for PTOs)
 - Perform RMR substitution
 - Support RMR risk of retirement
 - New RMR resources will receive RAAIM status determination

System Changes (continued)

- SIBR
 - Like RA, automatically generate cost-based bid for new RMR units for unsubmitted bid range below contracted capacity
 - Include GHG compliance costs, SC charges, Major Maintenance Adders (MMA) and Opportunity Costs (OC)

System Changes (continued)

- IFM/RTM
 - New RMR will have an automatic RA Obligation (\$0/MWh bids in RUC)
- Settlements
 - New RMR will be part of ISO settlements and invoicing process
 - Monthly RMR capacity payment (by resource) and allocation (by PTO)
 - RAIM settlement/allocation
 - BCR (not for MMA or OC)

Upcoming milestones

Date	Milestone
August 30	Post draft BPM language
September 3 – October 11	Market simulation
November 1	RMR/CPM deployment
January 1, 2020	RMR/CPM effective date



Thank you!

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