



Reliability Must-Run and Capacity Procurement Mechanism Enhancements Discussion

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ISO seeks MSC input on the following

Capacity Procurement Mechanism (“CPM”)

1. Compensation for CPM resources
2. Methodology for determining price that can be bid above soft-offer cap price

Reliability Must-Run Agreements (“RMR”)

3. Compensation for RMR resources
4. Bidding rules for RMR resources

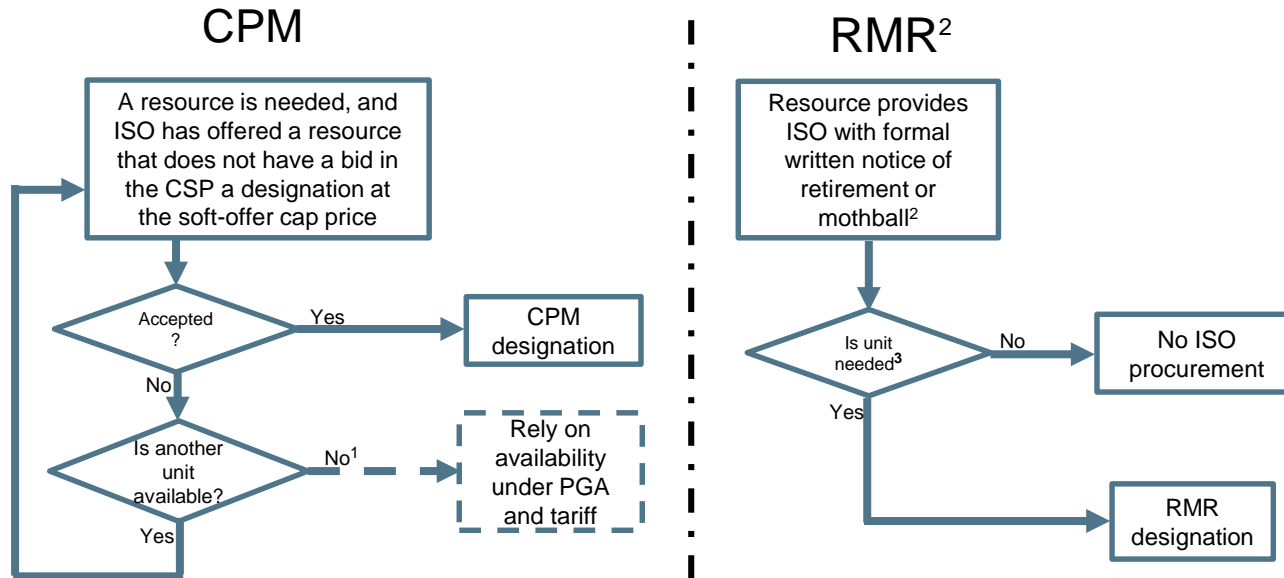
ISO will retain both RMR and CPM procurement mechanisms, as each has specific purposes

- CPM used to backstop RA program
- RMR used to address resource retirements
- RMR compensation based on full cost of service, as procurement is mandatory
- CPM compensation is
 - Voluntary if resource has not submitted a bid into Competitive Solicitation Process (“CSP”)
 - If a bid submitted in CSP and ISO accepts bid, resource cannot decline designation
- RMR and CPM resources will have must-offer obligation and be subject to RAAIM like RA resources are

Use of RMR and CPM Procurement

CPM used to backstop RA program

RMR 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

PGA = Participating Generator Agreement

1. Compensation for CPM resources

Current CPM Compensation Structure

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, resource keeps all market rents earned

ISO seeks MSC input on the following:

- Efficiency of proposed construct, which provides
 - Competitively bid capacity below soft-offer cap price
 - Competitively bid energy and retention of market revenues

2. Methodology for determining price that can be bid above soft-offer cap price

Primary Proposal

- Can file at FERC based on going-forward fixed costs of its resource using same cost categories and same 20% cost adder used for CPM reference resource, based on following costs
 - *Ad valorem* costs
 - Insurance costs
 - Fixed operation and maintenance costs
- Keep all market rents earned

Primary proposal (continued)

- Using 20% adder
 - Parallels existing, FERC-approved soft-offer cap price formula
 - Is consistent with prior FERC directives that price should provide for some contribution to fixed cost recovery to facilitate incremental upgrades and investments by resources
- Formula results in CPM using a going-forward fixed costs approach and RMR using cost of service approach (consistency)
- In 2019 ISO will start stakeholder process to assess CPM soft offer cap, including performing cost study, and will consider compensation for 12-month CPMs

ISO also considering filing alternative proposal, that FERC can choose if it does not accept primary proposal

Alternate Proposal

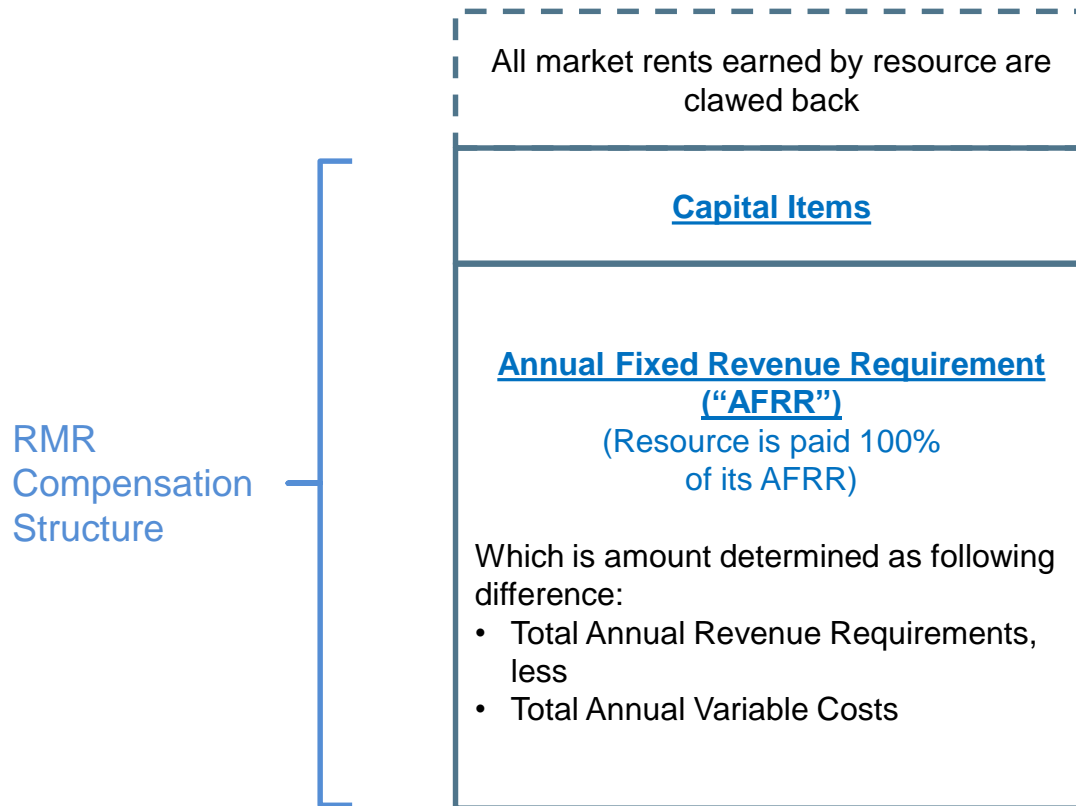
- Price above soft offer cap would be based on a resource's going forward fixed costs only, without a 20% adder
- Recognizes prior FERC orders that backstop procurement mechanisms that are voluntary need only provide for recovery of going forward fixed costs at a minimum
- CPM resources would retain all market rents

ISO seeks MSC input on the following:

- Whether for prices above soft-offer cap price
 - An adder is needed if resource is allowed to keep all market rents
 - If an adder is needed, basis for an adder and how it would be derived

3. Compensation for RMR resources

ISO is not proposing to change major components of RMR compensation structure, which is based on full cost of service



ISO seeks MSC input on the following:

- Given how RMR is used, does MSC have concerns with paying full cost of service compensation as defined in proposal?
 - Paying for a resource's AFRR and capital items and clawing back market rents based on full marginal cost bids

4 Bidding rules for RMR resources

- RMR resources will have a 24x7 MOO and will be
 - Paid full cost of service
 - Submit cost-based bids into energy and ancillary services markets
 - Credit all market rents above variable costs to the fixed payment
 - Receive uplift for all market rents below variable costs through existing bid cost recovery mechanism
 - Credit all Residual Unit Commitment revenues above \$0 to the fixed payment
 - Insert ISO-generated cost-based bids if no bids are submitted by Scheduling Coordinator
 - Allow for special operating instruction from ISO, including those for resource to not bid

RMR resources will be required to bid into market at total cost, including variable, major maintenance adders (“MMAs”) 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

- MMAs and opportunity costs will be used only if applicable
- Variable costs are compensated through energy market rents
- Actual costs of major maintenance are compensated for RMR resources
- Opportunity costs are not compensated

Treatment of MMAs, opportunity costs and bid cost recovery 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, reflecting full marginal costs
 - Actual MMAs 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 bid cost recovery payments when market earnings are insufficient to cover fuel costs

ISO seeks MSC input on the following:

- Do these requirements reflect full marginal costs?
- Will this pricing structure efficiently use resources and not unduly distort prices?