Minimum Offer Price Rule Rehearing Order Compliance Approach

May 28, 2020

Impact	
Yes	Order denied rehearing/clarification requests seeking to exempt state default service procurements from the definition of State Subsidy.

Revised Approach: State default service auctions are deemed to be a form of State Subsidy, except where they are competitive and/or resource neutral.

State Default Service Auctions Recommended Approach

State auctions that qualify for the carve out from the definition of State Subsidy must meet the following criteria:

- State auction is overseen by an independent consultant or manager who certifies that the auction is conducted through a non-discriminatory and competitive bidding process;
- State auction must not impose any conditions based on ownership, location, fuel type, technology, or emissions (except RPS requirements)
- State auction awards must not result in contracts between an Entity Serving Default Retail Service and an Electric Distribution Company that requires the retail obligation to be sourced from any specific Capacity Resource or resource type in order to satisfy retail supply obligations; and
- State auction costs are avoidable by obtaining electric supply from a competitive retail supplier.

Impacts to MOPR Floor Prices: Existing MOPR

Impact	
Yes	**MOPR for New-Entry Natural Gas Resources**: PJM's compliance filing should not contain any substantive changes to the existing MOPR rules that are unrelated to the replacement rate. (P397)

March Compliance Filing: Applied MOPR equally to new natural gas CT/CCs and state-subsidized resources

- Applied regardless of location and floor price set at applicable Net CONE

Revised Approach: Create two separate MOPR sections

- One for new natural gas resources (rules unchanged from current tariff) and one for state-subsidized resources

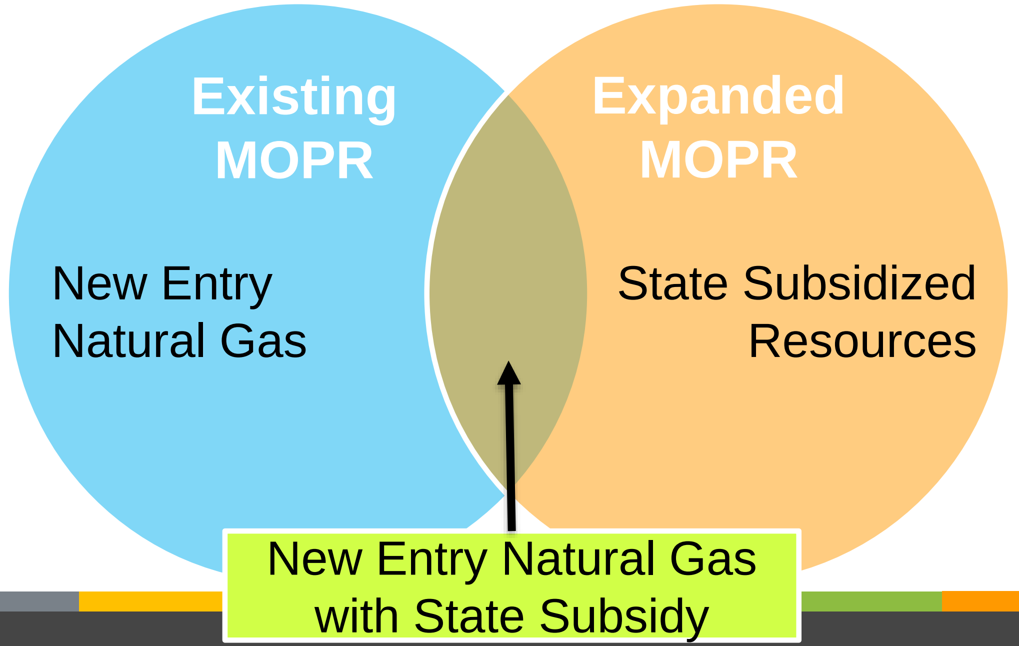
Impacts to MOPR Floor Prices: Two MOPR Sections

	Existing MOPR Application Section 5.14(h)	Expanded MOPR Application Section 5.14(h-1)
Resource Types	Natural Gas Generation (e.g. NG CTs, CCs, LFs, etc.)	All Resource Types
New vs. Existing	New	New and Existing
State-Subsidized	No	Yes
Location	LDAs for which a separate VRR curve has been established	Not Applicable (no locational restrictions)
Floor Price	For CT/CC: 90% Net CONE For Others: 70% CT Net CONE	Net CONE (New) Net ACR (Existing)
Competitive Exemption	No	Yes

Competitive Exemption for New Natural Gas with State Subsidy

In general, new natural gas resources with state subsidy will be subject to the new MOPR rules for state subsidized resources, rather than the existing natural gas MOPR rules

- However, if a new natural gas resource with state subsidy elects the competitive exemption, it will then be subject to the MOPR floor prices as directed by the existing MOPR rules for new natural gas resources



Transition from Existing to New Status

Impact	
Yes	Resources that are not subject to the Capacity Performance must-offer requirement will be treated as new resources if they seek to re-enter the capacity market after choosing not to participate in a particular auction, including intermittent renewable resources and demand resources. (P60)

March Compliance Filing: Once a state-subsidized resource clears at Net CONE, it becomes existing and remains existing (unless mothballed and repowered)

Revised Approach: A state subsidized resource that has transitioned to existing resource status will revert to being treated as new entry if the Market Seller declines to offer any MW on that resource in the BRA for a given Delivery Year

Trigger for Losing Status as Existing MW

A state-subsidized resource will lose the status of any Existing MW if:

- Zero MW are offered on that resource in a given BRA; and
- Zero MW are committed to an FRR plan at the time of the BRA

The loss of Existing MW status will be applied for the remaining auctions in the given delivery year and all future delivery years

- The new status will not be applied retroactively to any incremental auctions that have yet to be run for prior delivery years

For example, a resource not offered in the 2023/2024 BRA will lose the Existing status for all MW for the 2023/2024 DY and beyond.

Existing status will be retained in the 2022/2023 1st, 2nd or 3rd Incremental Auctions.

Consequences of Losing Existing Resource Status

- A resource that loses its existing MW status will be treated as a New Entry Capacity Resource with State Subsidy

- A New Entry Capacity Resource with State Subsidy is subject to:
  - A MOPR floor price equal to Net CONE
  - The asset life ban if they elect the competitive exemption and accept a subsidy for that delivery year or any delivery year prior

- PJM recommends addressing the shortcomings of this approach in a subsequent filing
  - Resources that lose their status as an existing resource could be banned upon electing the competitive exemption if they ever previously took a subsidy after clearing at the applicable MOPR price consistent with the rules that applied at that time
  - There is no process for requesting an exception to skip participation in a BRA and retain existing status for major maintenance, etc.

Impact	
Yes	To the extent it was bilaterally procured to fulfill a capacity commitment, capacity from state-subsidized resources cannot serve as replacement capacity for unsubsidized capacity resources. (P400)

March Compliance Filing: No restrictions on the use of replacement transactions

Revised Approach: Restrict the use of available capacity on a state-subsidized resource as a replacement for a non-subsidized resource's capacity commitment, if the replacement capacity was bilaterally procured

- There are no restrictions on replacement capacity between resources owned by a Market Seller.
- Bilateral transactions greater than one year in length will not be subject to this restriction
  - Such transactions are used to model joint ownership shares and long-term power purchase agreements, which are transactions that are not entered into for the purpose of purchasing replacement capacity
- A bilaterally procured, subsidized resource that has elected the competitive exemption may still replace a non-subsidized resource.

Additional Transparency Required on Bilateral Transactions

- Locational UCAP transactions are commonly used to transfer replacement capacity.
- To provide the buyer with transparency into the status of a replacement resource and ensure subsidized resources are not used to replace non-subsidized resources, the following additional information must be provided on Locational UCAP transactions in Capacity Exchange:
  - Whether the resource that is the subject of the transaction is a Capacity Resource with State Subsidy; and
  - Whether the Competitive Exemption has been elected for such resource.
- If the replacement resource is subsidized or elected the competitive exemption and subsequently accepts the subsidy during the delivery year, the replacement transaction will be null and void.

Appendix

The slides in this appendix are unchanged from those presented at the May 13, 2020 MIC meeting

Highlights of FERC Order on Requests for Rehearing and Clarification

The April 16 FERC order on requests for rehearing and clarification in the MOPR docket largely affirmed the December 2019 order.

Impact	
No	Order clarified that voluntary transactions for RECs are not considered State Subsidies.
No	Order affirmed that participation in RGGI is not categorized as a State Subsidy, but payment of RGGI revenue to specific generation units is a subsidy and subject to MOPR.
Yes	Order denied rehearing requests seeking to exempt state default service procurements from the definition of State Subsidy.

Impacts on State Subsidy Definition

Impact	
No	Public power self-supply entities cannot engage in voluntary, arms-length bilateral contracts with unaffiliated third parties without triggering the MOPR. (P243)
Yes	Clarified that all existing resources that were included by an RPS standard as of the December 2019 Order qualify for the RPS Exemption (P279)

Impact	
No	Order clarified that voluntary transactions for RECs are not considered State Subsidies.

- Capacity Market Sellers that certify all generated RECs from the Capacity Resource will be used solely for voluntary transactions may elect the competitive exemption and not be subject to the MOPR.

Impact	
No	Order affirmed that participation in RGGI is not categorized as a State Subsidy, but payment of RGGI revenue to specific generation units is a subsidy and subject to MOPR.

- State Subsidy Definition:
  - “State Subsidy shall not include . . . state action that imposes a tax or assesses a charge utilizing the parameters of a regional program on a given set of resources notwithstanding the tax or cost having indirect benefits on resources not subject to the tax or cost (e.g., Regional Greenhouse Gas Initiative)”

Bilateral with Public Power

Impact	
No	Public power self-supply entities cannot engage in voluntary, arms-length bilateral contracts with unaffiliated third parties without triggering the MOPR. (P243)

- "State Subsidy shall not include . . . any voluntary and arm's length bilateral transaction (including but not limited to those reported pursuant to Tariff, Attachment DD, section 4.6), such as a power purchase agreement or other similar contract where the buyer is a Self-Supply Entity and the transaction is (1) a short term transaction (one-year or less) or (2) a long-term transaction that is the result of a competitive process that was not fuel-specific and is not used for the purpose of supporting uneconomic construction, development, or operation of the subject Capacity Resource, provided however that if the Self-Supply Entity is responsible for offering the Capacity Resource into an RPM Auction, the specified amount of installed capacity purchased by such Self-Supply Entity shall be considered to receive a State Subsidy in the same manner, under the same conditions, and to the same extent as any other Capacity Resource of a Self-Supply Entity.
- March filing is consistent with P70 of December 19 Order and "sufficiently address resources receiving State Subsidies to keep existing uneconomic resources in operation, or to support the uneconomic entry of new resources"

Impact	
Yes	Clarified that all existing resources that were included by an RPS standard as of the December 2019 Order qualify for the RPS Exemption (P279)

- March Compliance Filing: Exemption limited only to Intermittent Resources that qualified for an RPS standard as of December 19, 2019

- Revised Approach: Exemption will be broadened to any resource that qualified for an RPS standard as of December 19, 2019

Impacts to MOPR Floor Prices

Impact	
No	**Energy Efficiency:** Establish default MOPR floor price based on Net CONE/Net ACR rather than verifiable level of savings. (P197)
Yes	**Default Net ACR:** Use resource-specific net revenues rather than zonal net revenues in the net E&AS offset. (P171)
Yes	**MOPR for New-Entry Natural Gas Resources**: PJM's compliance filing should not contain any substantive changes to the existing MOPR rules that are unrelated to the replacement rate. (P397)

Impacts to MOPR Floor Prices: Energy Efficiency

Impact	
No	**Energy Efficiency:** Establish default MOPR floor price based on Net CONE/Net ACR rather than verifiable level of savings. The default offer price floors for energy efficiency must account for the costs of measurement and verification necessary to establish a resource’s verifiable level of savings.(P197)

March Compliance Filing: Default MOPR floor prices for Energy Efficiency were established with Net CONE/Net ACR approach.

Revised Approach: No change. PJM’s compliance filing will affirm that measurement and verification costs were included in the development of the CONE and ACR values filed in March.

Impacts to MOPR Floor Prices: Default Net ACR

Impact	
Yes	**Default Net ACR:** Use resource-specific net revenues rather than zonal net revenues in the net E&AS offset. (P171)

March Compliance Filing:

Default Net ACR = Gross ACR – Zonal Net E&AS Offset

Revised Approach:

Default Net ACR = Gross ACR – Resource-Specific Net E&AS Offset

Resource-Specific Net E&AS Offset will be based on 3-year historical average, consistent with current methodology described in Tariff for offer caps (Attachment DD, section 6.8(d))

Impacts to MOPR Floor Prices: Additional Items

Impact	
Yes	**Seasonal Capacity Resources**: PJM's compliance filing should include default MOPR floor prices for seasonal capacity resources. (P195)

March Compliance Filing: Specified default CONE and ACR values on $/MW-Day (Nameplate) basis; Did not explicitly describe application to seasonal offers

Revised Approach: Further describe the application and determination of default MOPR floor prices for all resource types, including seasonal offers

- How MOPR floor prices will be determined on $/MW-Day (UCAP) basis
- How MOPR floor prices will apply to seasonal offers

Default MOPR Floor Prices for New-Entry:
$/MW-Day (UCAP) Conversion

Example Resource	[A] Gross CONE ($/MW-Day) (Nameplate)	[B] Zonal Net E&AS ($/MW-Day) (Nameplate)	[C] Zonal Net CONE ($/MW-Day) (Nameplate)	[D] Default Factors to Convert to $/MW-Day (UCAP)	[E] Net CONE ($/MW-Day) (UCAP)	Conversion Formula to Calculate [E]
Tracking Solar 1	$290	$185	$105	60% [1]	$175	[C] / [D]
Onshore Wind 1	$420	$240	$180	17.6% [1]	$1,023	[C] / [D]
Combined Cycle 1	$320	$168	$152	3.4% [2]	$157	[C] / (1 - [D])
Gen-Backed DR 1	$254	$0	$254	1.08 [3]	$235	[C] / [D]

1. Class-average capacity value factors used for UCAP conversion for solar and wind
2. Class-average EFORds used for UCAP conversion for other generation types
3. Delivery Year Forecast Pool Requirement used for UCAP conversion for DR and EE

Default MOPR floor prices for Existing resources will use unit-specific capacity value factors and EFORds, consistent with unit-specific net E&AS offsets

Default MOPR Floor Price and Seasonal Offers:
New Tracking Solar w/ Class-Average Capacity Value Factor

New Tracking Solar (Default MOPR)	
Nameplate (MW)	100
Annual Capacity Value Factor (% Nameplate)	60%
Annual Capacity Value (MW)	60
Incremental Winter CIRs (MW)	N/A
Applicable Capacity Value Factor (% Nameplate)	**60%**
Default Net CONE ($/MW-Day) (Nameplate)	$105
MOPR Floor Price ($/MW-Day) (UCAP)	**$175**

Capacity value factor used to convert from $/MW-Day (Nameplate) to $/MW-Day (UCAP)

- Based on accredited capacity value; not how the resource owner chooses to offer the unit in any particular RPM Auction

MOPR floor price of **$175/MW-Day (UCAP)** is applicable to any annual and/or summer sell offer submitted by the resource

- Eligible to submit annual offer: 0 to 60 MW
- Eligible to submit summer offer: 0 to 60 MW
- Combined summer total may not exceed 60 MW

Unit-Specific MOPR Floor Price and Seasonal Offers:
New Tracking Solar w/ Higher Capacity Value Factor

New Tracking Solar (Unit-Specific MOPR Review)	
Nameplate (MW)	100
Annual Capacity Value Factor (% Nameplate)	65%
Annual Capacity Value (MW)	65
Incremental Winter CIRs (MW)	N/A
Applicable Capacity Value Factor (% Nameplate)	**65%**
Unit-Specific Net CONE ($/MW-Day) (Nameplate)	$105
MOPR Floor Price ($/MW-Day) (UCAP)	**$162**

Capacity value factor used to convert from $/MW-Day (Nameplate) to $/MW-Day (UCAP)

- Based on accredited capacity value; not how the resource owner chooses to offer the unit in any particular RPM Auction

MOPR floor price of **$162/MW-Day (UCAP)** is applicable to any annual and/or summer sell offer submitted by the resource

- Eligible to submit annual offer: 0 to 65 MW
- Eligible to submit summer offer: 0 to 65 MW
- Combined summer total may not exceed 65 MW

Unit-Specific MOPR Floor Price:
New Onshore Wind w/ Incremental Winter CIRs

New Onshore Wind (Unit-Specific MOPR Review)	
Nameplate (MW)	100
Annual Capacity Value Factor (% Nameplate)	17.6%
Annual Capacity Value (MW)	17.6
Incremental Winter CIRs (MW)	22.4
Applicable Capacity Value Factor (% Nameplate)	**28.7%**
Unit-Specific Net CONE ($/MW-Day) (Nameplate)	$180
MOPR Floor Price ($/MW-Day) (UCAP)	**$627**

Capacity value factor adjusted to reflect incremental winter capacity value

- (17.6% * 365 + 22.4% * 181) / 365 = **28.7%**

MOPR floor price of **$627/MW-Day (UCAP)** is applicable to any annual and/or winter sell offer submitted by the resource

- Eligible to submit annual offer: 0 to 17.6 MW
- Eligible to submit winter offer: 0 to 40 MW
- Combined winter total may not exceed 40 MW

Transition From Existing to New

Impact	
Yes	Resources that are not subject to the Capacity Performance must-offer requirement will be treated as new resources if they seek to re-enter the capacity market after choosing not to participate in a particular auction, including intermittent renewable resources and demand resources. (P60)

Transition From New to Existing

Impact	
Yes	Only the cleared portion of a resource’s megawatts will be treated as existing (P398)
Yes	Demand resources increasing the number of megawatts they offer year-to-year must explain why the increased quantity they intend to offer is not connected to any increased costs or State Subsidies that make the uprate possible. (P172)

Per MW Transition from New Entry to Existing Resource Status

Impact	
Yes	Only the cleared portion of a resource's megawatts will be treated as existing (P398)

March Compliance Filing: If a new entry resource cleared any MW at or above Net CONE in an auction, the entire resource would be treated as existing and subject to the lower Net ACR MOPR floor price in subsequent auctions

Revised Approach: If a New Entry Capacity Resource with State Subsidy partially clears the capacity market, only the cleared portion will be treated as existing in subsequent auctions. The uncleared MWs remain subject to MOPR at Net CONE.

The portion of a state-subsidized resource's MWs that clear with an offer at or above Net CONE in a BRA or incremental auction will be treated as existing for the remaining auctions in the given delivery year and all future delivery years

- Status as Existing MW will not be applied retroactively to any incremental auctions that have yet to be run for prior delivery years

For example, MW newly cleared in the 2023/2024 BRA will transition to existing for the 2023/2024 DY and beyond.

They will not be treated as existing in the 2022/2023 1st, 2nd or 3rd incremental auctions.

Tracking Existing MW

- The quantity of MWs that transition to existing will be the ICAP equivalent of the UCAP MWs that clear at or above Net CONE
- Tracking existing MWs on an ICAP equivalent MW basis allows additional MWs that become available due to an improved EFORd to be counted as existing
  - Conversely, a worsened EFORd can result in less MWs being counted as existing
- Cleared Equivalent ICAP MW = Cleared UCAP MW / (1-EFORd)

Cleared Equivalent ICAP Example

Resource with 100 MW ICAP

2022/2023 BRA EFORd = 10%	2023/2024 BRA EFORd = 5%
New Entry MW 100 MW Total ICAP Available UCAP to offer = 100 MW * (1 - .10) = 90 MW UCAP MW cleared at or above Net CONE = 80 MW Cleared Equivalent ICAP MW = 80 MW / (1 - .10) = 88.9 MW	**New Entry MW** 100 MW Total ICAP – 88.9 MW Existing ICAP = 11.1 MW Available UCAP to offer = 11.1 MW * (1 - .05) = 10.5 MW
Existing MW 0 MW	**Existing MW** ICAP = 88.9 MW Available UCAP to offer = 88.9 MW * (1 - .05) = 84.5 MW

While 80 MW of UCAP cleared in the 2022/2023 BRA in this example, the use of equivalent ICAP allows 84.5 MW to be considered as existing in the subsequent BRA given the improved EFORd for that Delivery Year

Demand Resource Uprates

Impact	
Yes	Demand resources increasing the number of megawatts they offer year-to-year must explain why the increased quantity they intend to offer is not connected to any increased costs or State Subsidies that make the uprate possible. (P172)

March Compliance Filing: Once an end-use customer location achieves existing resource status, all MWs at that location would be treated as existing in subsequent auctions, even if the MW value fluctuates

Revised Approach: Once an end-use customer location achieves existing resource status, the MWs counted as existing may only fluctuate to the extent any increase is not related to an uprate.

- Uprate MWs are treated as new if investment is made to increase the available load reduction capability in the capacity market.