

## 5.4 Sell Offers in RPM

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### 5.4.1 Resource-Specific Sell Offer Requirements

Sell Offers for the Base Residual and Incremental Auctions must be submitted in PJM's Capacity Exchange system. Sell offers are only accepted during a fixed bidding window which is open for at least five (5) business days. The bidding window for a Base Residual Auction and Incremental Auctions will be posted on the PJM website. Sell offers may not be changed or withdrawn after the bidding window for a Base Residual Auction or Incremental Auction is closed.

The following are business rules that apply to Resource-Specific Sell Offers:

- The smallest increment that may be offered into any auction is 0.1 MW
- A resource-specific sell offer will specify, as appropriate:
  - Specific Generating Unit, Demand Resource, Energy Efficiency Resource, or Aggregate Resource
  - With the exception of Intermittent Resources and Capacity Storage Resources, each Generation Capacity Resource with available capacity that is capable or can reasonably become capable of qualifying as a Capacity Performance Resource must submit a Capacity Performance sell offer segment.
    - ELCC Resources may not offer or otherwise provide UCAP MW quantities above their Capacity Interconnection Rights.
    - Intermittent Resources are generation capacity resources with output that can vary as a function of its energy source, such as wind, solar, landfill gas, run of river hydroelectric power and other renewable resources. An acceptable method for determining the quantity of unforced capacity MWs that may offer as Capacity Performance for an intermittent resource is based on calculating the average of the hourly output (MWh) of the intermittent resource during the expected performance hours in the summer and winter. The expected performance hours in the summer are hours ending 15:00 through 20:00 EPT in the months of June, July, and August. The expected performance hours in the winter are hours ending 6:00 through 9:00 EPT and 18:00 through 21:00 EPT in the months of January and February. Notwithstanding the above, PJM may review and accept alternative proposed methods for determining the quantity of unforced capacity MWs that may be offered as Capacity Performance for an Intermittent resource.
    - Capacity Storage Resources shall mean any Energy Storage Resource<sup>1</sup> that participates in the Reliability Pricing Model or is otherwise treated as

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<sup>1</sup> Energy Storage Resource shall mean a resource capable of receiving electric energy from the grid and storing it for later injection to the grid that participates in the PJM Energy, Capacity, and Ancillary Services markets as a Market Participant.

capacity in PJM's markets such as through a Fixed Resource Requirement Capacity Plan. An acceptable method for determining the quantity of unforced capacity MWs that may offer as Capacity Performance for a Capacity Storage Resource is based on calculating the average of the hourly output (MWh) of the intermittent resource during the expected performance hours in the summer and winter. The expected performance hours in the summer are hours ending 15:00 through 20:00 EPT in the months of June, July, and August. The expected performance hours in the winter are hours ending 6:00 through 9:00 EPT and 18:00 through 21:00 EPT in the months of January and February.

- Notwithstanding the above, for the 2023/24 Delivery Year and subsequent Delivery Years, ELCC Resources may not offer or otherwise provide UCAP MW quantities above their Accredited UCAP.
- Exceptions to the capacity performance must-offer requirement will be permitted for a generation capacity resource which the Capacity Market Seller demonstrates is reasonably expected to be physically incapable of satisfying the requirements for a Capacity Performance Generation Resource by the start of the Delivery Year. The Seller must submit a request for an exception (with all supporting information) no later than 120 days before the offer window opens for the relevant RPM Auction.
  - Effective with the 2023/2024 Delivery Year, Capacity Market Sellers seeking an exception for a BRA on the basis that the resource is incapable of meeting the Capacity Performance Resource requirements shall include a documented plan with the submission of their exception request showing the steps the Capacity Market Seller intends to pursue for the resource to become physically capable of satisfying the requirements of a Capacity Performance Resource, and provide periodic updates on the progress of such plan in accordance with Tariff, Attachment DD, section 6.6A(c).
- Capacity Market Sellers may specify multiple auctions in a written must-offer exception request (with all supporting documentation) to be reviewed by the IMM and PJM with each applicable auction. Capacity Market Sellers must notify PJM and the IMM of any material changes related to the request up through the closing of the relevant auction(s) offer window.
  - When multiple auctions are specified in the written request, Capacity Market Sellers should continue to create a new request in the IMM's online system (MIRA) for each relevant subsequent auction and confirm that the documentation represents the best, current information.
- A generation resource that can qualify as Capacity Performance product type, but requires substantial investment to do so, is not excused from the capacity performance must-offer requirement.

- Intermittent Resources, Capacity Storage Resources, Demand Resources, Energy Efficiency Resources are not required to submit a Capacity Performance sell offer segment.
- Minimum and maximum amount of installed capacity offered in MWs for the resource by Capacity Performance (annual) Offer Segment and Maximum amount of installed capacity offered in a Seasonal (summer or winter) Capacity Performance Offer Segment. The Seasonal Capacity Performance Offer Segment is considered a flexible offer segment with a minimum MW quantity set to zero MW. (Effective with the 2020/2021 Delivery Year). For ELCC Resources, the ICAP MW quantity specified shall represent the UCAP MW quantity to be offered.
- Offer Segment price willing to receive in \$/MW-day (in UCAP terms)
- Regular Schedule, Self-Schedule or Flexible Self-Schedule flag
- EFORd to apply to the offered MWs (only applicable in the Base Residual Auction, First Incremental Auction, and Second Incremental Auction) for generation resources. For ELCC Resources, the EFORd component of the offer is not applicable.
- New Unit Pricing participation flag for Planned Generation Capacity Resources requesting New Unit Pricing Adjustment.
- The ICAP MW quantity specified in the Offer Segment will be converted into an UCAP MW quantity by the sell offer EFORd for use in the auction clearing. The sell offer price specified in the Offer Segment is in UCAP terms and will not be converted for use in the auction clearing. For ELCC Resources, the EFORd component of the offer is not applicable, and the ICAP MW quantity specified shall represent the UCAP MW quantity to be offered.
- A Capacity Performance (annual), or Seasonal Capacity Performance Offer Segment may be offered as either a single price quantity for the capacity of the resource or divided into up to ten offer blocks with varying price-quantity pairs that represent various segments of capacity from the resource. The Offer Segment will consist of block segments at the specified price-quantity pairs.
- The seller specifies the EFORd to apply if participating in a Base Residual Auction, First Incremental Auction, or Second Incremental Auction.
- The EFORd cannot exceed the greater of the EFORd calculated based on outage data for 12 months ending September 30<sup>th</sup> prior to the Base Residual Auction, the 5 Year Average EFORd based on outage data for 12 months ending September 30<sup>th</sup> prior to the Base Residual Auction, or the EFORd submitted by the market participant in their Base Residual Auction Sell Offer.
- The EFORd applied to the Third Incremental Auction will be determined by PJM using the forced outage data for the 12 months ending on September 30 prior to the relevant Delivery Year. The seller is willing to accept the clearing of any amount equal to or greater than the minimum MW amount offered and equal to or less than the maximum MW offered.
- If the self-scheduled flag is enabled in the Base or Capacity Performance Offer segment, the sell offer price must be set to zero and the minimum and maximum amounts specified in the sell offer must be equal.

- The acceptance of the sell offer is based on the party's Maximum Available ICAP Position for the Delivery Year at the opening of the auction's bidding window. Effective with the 2020/2021 Delivery Year, the acceptance of the sell offer is based on the party's Maximum Available ICAP Position for the entire Delivery Year (annual position) if Capacity Performance Resource, Maximum Available ICAP Position for summer period (summer position) if Summer-Period Capacity Performance Resource, Maximum Available ICAP Position for winter period (winter position) if Winter-Period Capacity Performance Resource.
- Effective with the 2020/2021 Delivery Year, the total MWs offered across all Capacity Performance offer segments may not exceed the Maximum Available ICAP Position for the Delivery Year (i.e., the annual position). The total MWs offered across the Capacity Performance offer segments and the Seasonal Capacity Performance-Summer offer segments may not exceed the Maximum Available ICAP Position for summer period (i.e., the summer position). The total MWs offered across the Capacity Performance offer segments and the Seasonal Capacity Performance-Winter offer segments may not exceed the Maximum Available ICAP Position for winter period (i.e., the winter position).
- If a participant has a zero or negative Maximum Available ICAP Position, PJM will reject the sell offer.
- A sell offer in an RPM Auction that violates any "Conditions on Sales by FRR Entities" as presented in the FRR Business Rules will be rejected.
- For Planned Resources and external resources without firm transmission, sell offers for which the RPM Credit Requirement exceeds the credit available will be rejected.
- For Delivery Years up to and including the 2022/2023 Delivery Year, Aa generation resource's default sell offer cap for any capacity performance offer segment shall be the product of the historical balancing ratio times the Net CONE of the zonal LDA in which the resource resides. Market Sellers may qualify to submit a sell offer price above the default offer cap for a capacity performance offer segment by submitting Avoidable Cost Rate data to IMM and PJM 120 days prior to the RPM Auction. Effective with the 2023/2024 Delivery Year and for all subsequent Delivery Years, a Capacity Market Seller submitting a sell offer for an existing Generation Capacity Resource greater than \$0/MW-Day must seek a unit-specific exception request for such sell offer by submitting Avoidable Cost Rate data to IMM and PJM 120 days prior to the RPM Auction, or may, at its election, utilize an offer cap based on the default gross Avoidable Cost Rate of the applicable resource type, if available.
- All sell offers for a supplier that fails the Three-Pivotal Supplier Test will be capped within the mitigated LDA
- Prior to the 2020/2021 Delivery Year, cleared sell offers and offers receiving Make-Whole payments are binding commitments to provide capacity for the entire Delivery Year.
- Effective with the 2020/2021 Delivery Year, cleared MWs and make-whole MWs for Capacity Performance Offer Segments are binding commitments to provide capacity for the entire Delivery Year. Cleared MWs for Seasonal Capacity Performance-Summer Offer Segments are binding commitments to provide capacity for the summer period of June through October and May of the Delivery Year. Cleared MWs for Seasonal Capacity

Performance-Winter Offer Segments are binding commitments to provide capacity for the winter period of November through April of the Delivery Year.

#### **5.4.2 Flexible Self Scheduling**

An LSE may specify offer segments as flexible self-scheduled in the Base Residual Auction to provide a mechanism to manage the quantity uncertainty related to the Variable Resource Requirement.

To specify a segment as a flexible self-scheduled segment, an LSE must specify the following:

- For each such segment, “flexible self-scheduled” must be selected as the offer type of the segment.
- A flexible self-schedule sell offer must specify an offer price that will be utilized in the market clearing in the event that the resource is not needed to cover the calculated capacity obligation. This is in addition to the data required of a self-schedule resource-specific sell offer.
- In conjunction with an offer of a flexible self-schedule segment, the LSE must also submit through Capacity Exchange a percentage of the Preliminary Zonal Peak Load Forecast in each transmission zone the LSE wishes to cover with self-scheduled and flexible self-scheduled resources. This percentage of the peak load forecast will be used to calculate the LSE’s resulting capacity obligation through the auction clearing process that considers the Variable Resource Requirement.

If the same LSE offers both self-scheduled and flexible self-schedule segments to serve an Unforced Capacity Obligation within the same LDA, those segments that are self-scheduled will be used first to meet the obligation. The flexible self-scheduled segments will be automatically cleared in the auction if they are needed to supply the LSEs resulting capacity obligation. In the event that the LSE does not need all of the segments that were specified as flexible self-scheduled to meet its resulting capacity obligation, the RPM clearing function will consider the excess as offered into the market at the price specified with the flexible self-scheduled segment. The segments that are considered excess for this LSE will be those that have the highest specified offer prices.

#### **5.4.3 New Entry Pricing Adjustment**

New Entry Pricing Adjustment<sup>2</sup> is an incentive provided to Planned Generation Resources where the size of the new entry is significant relative to the size of the LDA and there is a potential for the clearing price to drop when all offer prices including that of the new entry are capped. New Entry Pricing Adjustment allows Planned Generation Capacity Resources to recover the amount of their cost of entry-based offer for up to two additional consecutive years under certain conditions.

New Entry Pricing Adjustment is applicable under the following conditions:

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<sup>2</sup>2OATT, Attachment DD, Section 5.14(c)

1. The new entry must select the New Entry Pricing Adjustment option at the time the sell offer into the initial BRA (Delivery Year 1 BRA) is submitted.
2. The capacity cleared from the new entry (including any make-whole MW) in the Delivery Year 1 BRA would move the total LDA resources committed in the BRA from below the LDA Reliability Requirement to a MW quantity at or above the MW quantity at the price-quantity point on the VRR Curve where the price is 40% of the Net CONE divided by the quantity one minus pool-wide average EFORD.
3. The seller submits offers into the two immediately following BRAs (Delivery Year 2 BRA and Delivery Year 3 BRA) to sell the entire capacity of the unit committed in the Delivery Year 1 BRA at a price equal to the lesser of (a) the price offered in the Delivery Year 1 BRA where the resource was classified as planned generation; or (b) 90% of the Net CONE applicable in the Delivery Year 1 BRA in UCAP basis.
4. Failure to submit a sell offer consistent with condition (3) above in the Delivery Year 3 BRA shall not retroactively revoke the New Entry Price Adjustment for Delivery Year 2. However, the failure to submit a sell offer consistent with condition (3) in the Delivery Year 2 BRA shall make the resource ineligible for New Entry Price Adjustment for Delivery Years 2 and 3.

New entry revenues:

1. If the new entry meets conditions (1) and (2) above and is the marginal offer in Delivery Year 1 BRA, it sets the resource clearing price for the LDA in Delivery Year 1 BRA and receives revenues based on this price in the Delivery Year 1 BRA.
2. If the new entry clears its capacity in either of the two subsequent BRAs (Delivery Year 2 BRA or Delivery Year 3 BRA), it will receive revenues based on the LDA clearing price in such subsequent year BRA.
3. If the new entry does not clear in either of the two subsequent year BRAs (Delivery Year 2 BRA or Delivery Year 3 BRA), it will be resubmitted at the highest offer price at which the unforced MW amount cleared in the Delivery Year 1 BRA will clear in the subsequent year BRA (Delivery Year 2 BRA or Delivery Year 3 BRA). The resource clearing price and the resources cleared for such subsequent year BRA will be determined from the clearing with the resubmitted sell offer. The new entry shall clear in such subsequent year BRA and be committed in the amount cleared plus any additional make-whole MW from its Sell Offer for such subsequent year BRA, but such make-whole MWs shall not be greater than the make-whole MWs committed in the Delivery Year 1 BRA. The new entry will receive revenues for the entire committed quantity in such subsequent year BRA based on the sell offer price initially submitted for such subsequent year BRA. The difference between the initially submitted sell offer price and the clearing price in such subsequent year BRA and any difference between cleared quantity and committed quantity in such subsequent year BRA will be paid as Resource Make-Whole payments to the new entry. The other capacity resources that clear such subsequent year BRA will receive the clearing price for such subsequent year BRA.

A Capacity Market Seller may make its Sell Offer in the initial BRA (Delivery Year 1 BRA) contingent upon qualifying for New Entry Price Adjustment. Prior to the close of the BRA offer window, a Capacity Market Seller must notify PJM of a NEPA contingent Sell Offer election via an email to [rpm\\_hotline@pjm.com](mailto:rpm_hotline@pjm.com). PJM shall not clear a NEPA contingent Sell Offer if it does not qualify for the New Entry Price Adjustment.

While the New Entry Pricing Adjustment is effective, the LDA in which the New Entry was cleared will be modeled as an LDA in Years 2 and 3 regardless of the amount of LDA Capacity Emergency Transfer Limit margin over Capacity Emergency Transfer Objective in the PJM RTEP Process. After the New Entry Pricing Adjustment period, the LDA will be maintained only if deemed necessary in the PJM RTEP Process.

Market Monitor's existing authority and review responsibilities shall include "New Entry Pricing." Market Monitor shall analyze and report on "New Entry Pricing" in the State of the Market Report.

#### **5.4.4 Sell Offer Caps**

##### **Submission of the Avoidable Cost Rate (ACR) Data**

120 days prior to the commencement of the offer period for an RPM Auction, participants must submit the data specified in **Section 6.7 of Attachment DD of the Open Access Transmission Tariff** in order to submit a non-zero Sell Offer in the Auction.

Capacity resource owners must supply PJM with their avoidable cost data through the IMM's Member Information Reporting Application ("MIRA").

The avoidable cost calculation is based on the categories of cost that are specified in **Section 6.8 of Attachment DD of the Open Access Transmission Tariff**. The calculation should be based on the annual costs that would be avoidable assuming the unit would otherwise retire.

Where multiple units exist at a single plant, the plant's total avoidable costs shall be allocated to each individual unit in an appropriate manner. The sum of such costs assigned to each unit shall equal the total plant costs.

The avoidable cost data should be for the 12 months preceding the month in which the data must be provided.

For units that are jointly-owned, only one owner, typically the operator is expected to provide avoidable cost data and Projected PJM Market Revenues for the unit.

All joint-owners of a unit can input their own bilateral revenues/costs, opportunity costs and transition adder.

If a unit is not expected to be operational during the Delivery Year, no avoidable cost and opportunity cost data are required, but notice of status is required.

##### **Calculation of Sell Offer Caps**

Sell offer caps shall be calculated as specified in Section 6.4 of Attachment DD of the Open Access Transmission Tariff.

If a unit does not submit ACR data, specify an opportunity cost, default rate, or specify a transition adder in the RPM ACR System, the offer cap for that unit will be set to the applicable default rate.

For Delivery Years up to and including the 2021/2022 Delivery Year, Projected PJM Market Revenues for any Generation Capacity Resource to which the Avoidable Cost Rate is applied shall include all actual unit-specific revenues from PJM energy markets, ancillary services, and unit-specific bilateral contracts from such Generation Capacity Resource, net of energy and ancillary services market offers for such resource. The calculation of Projected PJM Market Revenues shall be equal to the rolling simple average of such net revenues from the three most recent whole calendar years prior to the year in which the BRA is conducted.

For the 2022/2023 Delivery and subsequent Delivery Years, Projected PJM Market Revenues for any Generation Capacity Resource to which the Avoidable Cost Rate is applied shall be determined as described in section 5.4.5.7 of the manual.

Sell Offer Cap(s) will be calculated by Market Participant, by unit, by segment.

90 days prior to the commencement of the offer period, the IMM shall calculate and notify the Capacity Market Seller of their Sell Offer Cap consistent with Section 6 of Attachment DD of the Open Access Transmission Tariff.

All unforced capacity of all existing Generation Capacity Resources shall be offered in the Base Residual Auction unless one of the following conditions is met:

- The resource is reasonably expected to be physically unable to participate in the relevant Delivery Year.
- The resource has a financially and physically firm commitment to an external sale of its capacity.
- The resource was interconnected to the Transmission System as an Energy Resource and not converted to a Capacity Resource.

No offer caps are applied to sell offers of Planned Generation Resources.

No offer caps are applied to sell offers of Demand Resources or Planned Energy Efficiency Resources.

For the purposes of offer capping in the RPM Auctions, a resource not yet in operation shall be considered a planned resource for only the first RPM Auction that its' offer is cleared. The resource is considered an Existing Resource, for the purposes of offer capping, for any subsequent Auction except in the case of New Entry Pricing.

#### **5.4.5 Minimum Offer Price Rule (MOPR) for the 2022/2023 Delivery Year**

The Minimum Offer Price Rule<sup>3</sup> (MOPR) is intended to prevent the exercise of buyer-side market power and ensure that Capacity Resources are offered into RPM Auctions on a competitive basis. MOPR imposes a minimum offer screening process to determine whether an offer from a Capacity Resource is competitive and prevents market participants from submitting uncompetitive, low new entry offers in RPM Auctions to artificially depress auction clearing prices. [This section 5.4.5 describes the MOPR provisions of Sections 5.14\(h\) and 5.1\(h-1\) of Attachment DD of the PJM OATT. These provisions are not effective after the 2022/2023 Delivery Year.](#)

### **5.4.5.1 Applicability**

#### **New Generation Capacity Resources that are not Capacity Resources with State Subsidy**

The MOPR of Section 5.14(h) of Attachment DD of the PJM OATT applies to sell offers of certain new Generation Capacity Resources that do not receive or are not entitled to receive a State Subsidy. Specifically<sup>4</sup>, the provisions of Section 5.14(h) apply to the sell offers of such new Generation Capacity Resources (except those of nuclear, coal, integrated gasification combined cycle, hydroelectric, wind, or solar facilities) that are, located in an LDA for which a separate VRR Curve is established for the relevant Delivery Year, unless the resource has cleared an RPM Auction for the auction Delivery Year or prior Delivery Year. To the extent the new Generation Capacity Resource is a Capacity Resource with State Subsidy, then the provisions in Tariff, Attachment DD, section 5.14(h-1) apply.

#### **Capacity Resources with State Subsidy**

The MOPR of Section 5.14(h-1) of Attachment DD of the PJM OATT applies to the sell offers of any Capacity Resource with State Subsidy unless the Capacity Resource with State Subsidy qualifies for any of the categorical exemptions listed below. The sell offer of a Capacity Resource with State Subsidy that qualifies for any one of the categorical exemptions is not subject to a MOPR Floor Offer Price.

A Capacity Resource with State Subsidy is a Capacity Resource that is offered into an RPM Auction or otherwise assumes an RPM commitment for which the Capacity Market Seller receives or is entitled to receive one or more State Subsidies for the applicable Delivery Year. A Capacity Resource for which the State Subsidy has expired is still considered to be a Capacity Resource with State Subsidy upon expiration of such State Subsidy until the resource clears an RPM Auction at a Sell Offer price at or above the MOPR Floor Offer Price applicable to the resource in the auction. A Capacity Resource that is the subject of a bilateral transaction is considered to be a Capacity Resource with State Subsidy to the extent an owner of the facility supporting the Capacity Resource is entitled to a State Subsidy associated with such facility even if the Capacity Market Seller is not entitled to a State Subsidy. Any Jointly Owned Cross-Subsidized Capacity Resource is considered to be a Capacity Resource with State Subsidy.<sup>5</sup>

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<sup>3</sup>OATT, Attachment DD, Section 5.14(h) and Section 5.14(h-1)

<sup>4</sup> State Subsidy is defined in the Glossary section of this manual.

<sup>5</sup> Jointly Owned Cross-Subsidized Capacity Resource is defined in the Glossary section of this manual.

The MOPR Floor Offer Price that is applicable to a Capacity Resource with State Subsidy that does not qualify for one of the categorical exemptions is dependent upon whether the resource is considered to be a New Entry Capacity Resource with State Subsidy or a Cleared Capacity Resource with State Subsidy. A Cleared Capacity Resource with State Subsidy is a Capacity Resource with State Subsidy that has cleared in an RPM Auction for a Delivery Year prior to the 2022/2023 Delivery Year or, starting with the 2022/2023 Delivery Year, the MWs (in installed capacity) comprising a resource identified as a Capacity Resource with State Subsidy at the time of the auction and which cleared such RPM Auction for the 2022/2023 Delivery year or subsequent Delivery Year at a Sell Offer price at or above its resource-specific MOPR Floor Offer Price or the applicable default New Entry MOPR Floor Offer Price. A New Entry Capacity Resource with State Subsidy is a Capacity Resource with State Subsidy that has not cleared in an RPM Auction for a Delivery Year prior to the 2022/2023 Delivery Year or, starting with the 2022/2023 Delivery Year, the MWs (in installed capacity) of a Capacity Resource with State Subsidy that have not cleared in an RPM Auction for the 2022/2023 Delivery year or subsequent Delivery Year at a Sell Offer price at or above its resource specific MOPR Floor Offer Price or the applicable default New Entry MOPR Floor Offer Price. Any MWs (in installed capacity) of a New Entry Capacity Resource with State Subsidy that clear in an RPM Auction at a Sell Offer price at or above its resource specific MOPR Floor Offer Price or the applicable default New Entry MOPR Floor Offer Price are considered to be those of a Cleared Capacity Resource with State Subsidy from that point forward provided those MWs are offered into each subsequent BRA or are included in an FRR Capacity Plan at the time of each subsequent BRA. The MOPR Floor Offer Prices that are applicable to each resource are discussed further in section 5.4.5.4 below.

#### **5.4.5.2 Categorical Exemptions Applicable to Capacity Resources with State Subsidy**

##### **A. Competitive Exemption**

A Capacity Resource with State Subsidy may be exempt from the MOPR in any RPM Auction if the Capacity Market Seller elects to forego receiving any State Subsidy for the applicable Delivery Year no later than thirty (30) days prior to the commencement of the offer period for the relevant RPM Auction. The Capacity Market Seller certifies to such election via the Capacity Exchange system. The competitive exemption is not available to Capacity Resources with State Subsidy that (A) are owned or offered by Self-Supply Entities unless the Self-Supply Entity certifies, subject to PJM and Market Monitor review, that the Capacity Resource will not accept a State Subsidy, including any financial benefit that is the result of being owned by a regulated utility, such that retail ratepayers are held harmless, (B) are no longer entitled to receive a State Subsidy but are still considered a Capacity Resource with State Subsidy solely because they have not cleared an RPM Auction since last receiving a State Subsidy, or (C) are Jointly Owned Cross-Subsidized Capacity Resources or is the subject of a bilateral transaction and not all Capacity Market Sellers of the supporting facility unanimously elect the competitive exemption (unless the underlying Capacity Resource that is the subject of a bilateral transaction has not received, is not receiving, and is not entitled to receive any State Subsidy except those that are assigned (i.e., renewable energy credits) to the off-takers of a bilateral transaction and the Capacity Market Seller of such Capacity Resource can demonstrate and certify that the Capacity Market Seller's rights and obligations of its share of the

capacity, energy, and assignable State Subsidy associated with the underlying Capacity Resource are in pro rata shares). A new Generation Capacity Resource that is a Capacity Resource with State Subsidy may elect the competitive exemption; however, in such instance, the applicable MOPR Floor Offer Price will be determined in accordance with the minimum offer price rules for certain new Generation Capacity Resources as provided in Tariff, Attachment DD, section 5.14(h). The Capacity Market Seller shall not receive a State Subsidy for any part of the relevant Delivery Year in which it elects a competitive exemption or certifies that it is not a Capacity Resource with State Subsidy.

~~Consequences for accepting a State Subsidy following election of the Competitive Exemption or certifying the resource is not a Capacity Resource with State Subsidy~~

- ~~● If a New Entry Capacity Resource clears for the first time in an auction and was not subject to MOPR in that auction (either because it certified that it is was not a Capacity Resource with State Subsidy or because it elected the Competitive Exemption), then subsequently elects to accept a State Subsidy at any point in the future, that resource shall not receive RPM revenues for any part of a Delivery Year in which the resource receives the State Subsidy and may not participate in an RPM auction or be used as replacement capacity starting June 1 of the Delivery Year after which the resource first receives the State Subsidy and continuing for the remainder of the asset life that PJM used to set the default MOPR floor offer price in the auction that the new resource first cleared. As examples, assuming a 20-year asset life used in setting the default floor offer price for most resource types, if the resource accepts a State Subsidy in the first delivery year, it would not be able to participate in RPM for 20 years, whereas, if the resource accepts a State Subsidy in its fifth delivery year, it would not be able to participate in RPM for 15 years. If the resource were to accept a State Subsidy 21 years after first clearing the auction, the resource would not be prohibited from RPM participation. The Capacity Market Seller of any such Capacity Resource shall return any revenues paid to the resource associated with their capacity commitment for such Delivery Year within the remainder of the asset life as defined above and shall retain their RPM commitment and associated obligations for such Delivery Year and for any future Delivery Years in which the resource has already secured a capacity commitment. Capacity Resources that lose their eligibility to participate in RPM auctions remain eligible for commitment in an FRR Capacity Plan.~~
- ~~● If a Capacity Resource that has previously cleared an RPM Auction clears in a subsequent auction and was not subject to MOPR in that subsequent auction (either because it certified that it is was not a Capacity Resource with State Subsidy or because it elected the Competitive Exemption), but later elects to accept a State Subsidy for any part of the relevant Delivery Year, that resource may not receive RPM revenues for any part of that Delivery Year, unless it can demonstrate that it would have cleared in the relevant RPM Auction under an offer consistent with the resource-specific exception process. The Capacity Market Seller of any such Capacity Resource shall return any revenues paid to the resource associated with their capacity commitment for such Delivery Year and shall retain their RPM commitment and associated obligations for such Delivery Year and for~~

~~any future Delivery Years in which the resource has already secured a capacity commitment.~~

- ~~• In the case where the Capacity Resource is a Demand Resource, the provisions of the preceding subsections are applicable to each end-use customer location that is included in Demand Resource Registration to satisfy a Demand Resource commitment.~~
- ~~• In the case where the Capacity Resource is a Jointly-Owned Cross-Subsidized Capacity Resource or a Capacity resource with State Subsidy that is the subject of a bilateral transaction, the penalties of the preceding subsections are applicable to each owner's or Capacity Market Seller's share of the underlying facility if any owner or Capacity Market Seller of the underlying facility accepts a State Subsidy associated with the facility.~~
- Any revenues returned to the Office of the Interconnection pursuant to the preceding subsections shall be allocated across all load in the RTO that has not selected the FRR Alternative. Such revenues shall be distributed on a pro-rata basis to such LSEs that were charged a Locational Reliability Charge based on their Daily Unforced Capacity Obligations.

#### **B. Self-Supply Entity Exemption**

A Capacity Resource that was owned, or bilaterally contracted, by a Self-Supply Entity on December 19, 2019, shall be exempt from the MOPR if such Capacity Resource remains owned or bilaterally contracted by such Self-Supply Entity and (A) has successfully cleared an RPM Auction prior to December 19, 2019, or (B) is the subject of an interconnection construction service agreement, interim interconnection service agreement, interconnection service agreement or wholesale market participation agreement executed by the interconnection customer on or before December 19, 2019, or (C) is the subject of an unexecuted interconnection construction service agreement, interim interconnection service agreement, interconnection service agreement or wholesale market participation agreement filed by PJM with the Commission on or before December 19, 2019.

#### **C. Renewable Portfolio Standard Exemption**

A Capacity Resource with State Subsidy shall be exempt from the MOPR if such Capacity Resource (1) receives or is entitled to receive State Subsidies through renewable energy credits or equivalent credits associated with a state-mandated or state-sponsored renewable portfolio standard ("RPS") program or equivalent program as of December 19, 2019, (2) was a Capacity Resource as of December 19, 2019, and (3) satisfies one of the following conditions: (A) has successfully cleared an RPM Auction prior to December 19, 2019, or (B) is the subject of an interconnection construction service agreement, interim interconnection service agreement, interconnection service agreement or wholesale market participation agreement executed by the interconnection customer on or before December 19, 2019, or (C) is the subject of an unexecuted interconnection construction service agreement, interim interconnection service agreement, interconnection service agreement or wholesale market participation agreement filed by PJM with the Commission on or before December 19, 2019.

#### **D. Demand Resource and Energy Efficiency Resource Exemption**

A Capacity Resource with State Subsidy that is a Demand Resource shall be exempt from the MOPR if such Capacity Resource (A) has successfully cleared an RPM Auction prior to December 19, 2019, or (B) has completed registration on or before December 19, 2019. For this purpose, exemptions shall be tracked on an individual end-use customer location basis. End-use customer locations that were included in a registration that was linked to a Demand Resource that cleared in an RPM Auction prior to December 19, 2019, and were submitted to PJM no later than 45 days prior to the BRA for the 2022/2023 Delivery Year shall be deemed eligible for the Demand Resource and Energy Efficiency Resource Exemption.

A Capacity Resource with State Subsidy that is an Energy Efficiency Resource shall be exempt from the MOPR if such Capacity Resource (A) has successfully cleared an RPM Auction prior to December 19, 2019, or (B) is supported by a post-installation measurement and verification report for Energy Efficiency Resources approved by PJM on or before December 19, 2019 (calculated for each installation period, Zone and Sub-Zone by using the greater of the latest approved post-installation measurement and verification report prior to December 19, 2019 or the maximum MW cleared for a Delivery Year across all auctions conducted prior to December 19, 2019).

All registered locations that qualify for the Demand Resource and Energy Efficiency Resource exemption shall continue to remain exempt even if the MW of nominated capacity increases between RPM Auctions unless any MW increase in the nominated capacity is due to an investment made for the sole purpose of increasing the curtailment capability of the location in the capacity market. In such case, the MW of increased capability will not be qualified for the Demand Resource and Energy Efficiency Resource exemption.

#### **E. Capacity Storage Resource Exemption**

A Capacity Resource with State Subsidy that is a Capacity Storage Resource shall be exempt from the Minimum Offer Price Rule if such Capacity Storage Resource (A) has successfully cleared an RPM Auction prior to December 19, 2019, or (B) is the subject of an interconnection construction service agreement, interim interconnection service agreement, interconnection service agreement or wholesale market participation agreement executed by the interconnection customer on or before December 19, 2019, or (C) is the subject of an unexecuted interconnection construction service agreement, interim interconnection service agreement, interconnection service agreement or wholesale market participation agreement filed by PJM with the Commission on or before December 19, 2019.

#### **5.4.5.3 Capacity Market Seller Certification of Capacity Resource with State Subsidy Status**

By no later than 120 days prior to the commencement of the offer period of any RPM Auction conducted for the 2022/2023 Delivery Year ~~and all subsequent Delivery Years~~, each Capacity Market Seller must certify whether or not each Capacity Resource (other than a Demand Resource or an Energy Efficiency Resource) that the Capacity Market Seller intends to offer into the RPM Auction qualifies as a Capacity Resource with a State Subsidy and identify the specific State Subsidy(ies). Capacity Market Sellers that intend to offer a Demand Resource or an Energy

Efficiency Resource into the RPM Auction must certify whether or not such Demand Resource or Energy Efficiency Resource qualifies as a Capacity Resource with a State Subsidy and identify the specific State Subsidy(ies) by no later than 30 days prior to the commencement of the offer period of any RPM Auction conducted for the 2022/2023 Delivery Year ~~and all subsequent Delivery Years~~. All Capacity Market Sellers are responsible for each such certification which is undertaken through PJM's Capacity Exchange system. A Capacity Resource shall be deemed a Capacity Resource with State Subsidy if the Capacity Market Seller fails to timely certify whether or not a Capacity Resource is entitled to a State Subsidy unless the Capacity Market Seller receives a waiver from the Commission.

Once a Capacity Market Seller has certified a Capacity Resource as a Capacity Resource with a State Subsidy, the status of such Capacity Resource will remain unchanged unless and until the Capacity Market Seller (or a subsequent Capacity Market Seller) that owns or controls such Capacity Resource provides a certification of a change in such status, the Office of the Interconnection removes such status, or by FERC order. All Capacity Market Sellers have an ongoing obligation to certify to PJM and the Market Monitoring Unit a Capacity Resource's change in status as a Capacity Resource with State Subsidy within 30 days of such change. However, in the event a change in State Subsidy status occurs within 30 days of an RPM Auction, the timeframe for notifying PJM of such change must be no less than five days prior to the applicable RPM Auction.

#### **5.4.5.4 MOPR-Related Business Rules and Process Timeline**

The following business rules apply to the sell offer of any Capacity Resource that in an RPM Auction conducted for the 2022/2023 Delivery Year is subject to the MOPR of Tariff, Attachment DD, section 5.14(h) or section 5.14(h-1):

- The timeline for pre-auction activities related to MOPR is specified in the table below.
- If a Capacity Market Seller submits a sell offer for a new Generation Capacity Resource that is subject to the minimum offer price rules of section 5.14(h) of Attachment DD of the PJM OATT that is below the applicable default MOPR Floor Offer Price, then the resource's sell offer will be reset to the applicable Default MOPR Floor Offer Price unless the Capacity Market Seller requests and obtains a resource-specific exception. To the extent a resource-specific exception is obtained prior to an auction, the sell offer for the resource may be below the applicable default MOPR Floor Offer Price but no lower than the resource-specific MOPR Floor Offer Price determined in the resource-specific exception process.
  - If a new Generation Capacity Resource is a Capacity Resource with State Subsidy, then the minimum offer price rules of Tariff, Attachment DD, section 5.14(h-1) apply.
  - A new Generation Capacity Resource that is a Capacity Resource with State Subsidy that elects a competitive exemption is not exempted from the minimum offer prices rules of Tariff, Attachment DD, section 5.14(h) for certain new Generation Capacity Resources to the extent those rules also apply to that resource.

- The applicable MOPR Floor Offer Price of a New Entry Capacity Resource with State Subsidy shall be, at the election of the Capacity Market Seller, either (i) the resource-specific value determined in accordance with the resource-specific exception process for MOPR Floor Offer Prices, or (ii) the default New Entry MOPR Floor Offer Price, if available, for the applicable resource type and Zone in which the resource is located. Notwithstanding the foregoing, a Capacity Market Seller must seek a resource-specific MOPR Floor Offer Price for the following scenarios:
  - The resource is a New Entry Capacity Resource with State Subsidy for which there is no applicable default New Entry MOPR Floor Offer Price, including resources that are a hybrid of two or more resource types with defined default MOPR Floor Offer Prices. Failure to obtain a resource-specific MOPR Floor Offer Price will result in the Office of the Interconnection rejecting any Sell Offer for such resource for the relevant RPM Auction.
  - The resource is a New Entry Capacity Resource with State Subsidy and the applicable default New Entry MOPR Floor Offer Price exceeds the applicable Market Seller Offer Cap of the resource. Failure to obtain a resource-specific MOPR Floor Offer Price will result in the Office of the Interconnection rejecting any Sell Offer for such resource for the relevant RPM Auction.
- The applicable MOPR Floor Offer Price of a Cleared Capacity Resource with State Subsidy shall be, at the election of the Capacity Market Seller, either (i) the resource-specific value determined in accordance with the resource-specific MOPR Floor Offer Price process, or (ii) based on the default gross Avoidable Cost Rate, if available, of the applicable resource type net of the projected net energy and ancillary service revenues for the resource (Net ACR). Notwithstanding the foregoing, a Capacity Market Seller must seek a resource-specific MOPR Floor Offer Price for the following scenarios:
  - The resource is a Cleared Capacity Resource with State Subsidy for which there is no default Avoidable Cost Rate, including resources that are a hybrid of two or more resource types with defined default gross Avoidable Cost Rates. Failure to obtain a resource-specific MOPR Floor Offer Price will result in the Office of the Interconnection rejecting any Sell Offer for such resource for the relevant RPM Auction.
  - The resource is a Cleared Capacity Resource with State Subsidy and the MOPR Floor Price of the resource based on the default gross ACR net of projected net energy and ancillary service revenues exceeds the applicable Market Seller Offer Cap of the resource. Failure to obtain a resource-specific MOPR Floor Offer Price will result in the Office of the Interconnection rejecting any Sell Offer for such resource for the relevant RPM Auction.
- The MOPR Floor Offer Price of any Capacity Resource that is subject to the MOPR is expressed in terms of Unforced Capacity MW (“UCAP MW”). A resource’s MOPR Floor Offer Price in \$/UCAP MW-Day is applicable to each MW offered by the resource that is subject to MOPR regardless of the actual Sell Offer quantity and regardless of whether the Sell Offer is for a Seasonal Capacity Performance Resource.

- If any of the individual underlying resources of a commercially aggregated resource are subject to a MOPR Floor Offer Price, the MOPR Floor Offer Price applicable to the Sell Offer of such an aggregate resource is equal to the time and MW-weighted average of the applicable MOPR Floor Offer Prices (zero if applicable) of the individual aggregated resources.

#### **MOPR Related Process Timeline**

<b>MOPR Related Action</b>	<b>Deadline</b>
PJM posts preliminary estimate of MOPR Floor Offer Price	No later than 150 days prior to commencement of offer period for an RPM Auction
Capacity Market Seller certifies the State Subsidy status of each Generation Capacity Resource it intends to offer	No later than 120 days prior to the commencement of the offer period for the RPM Auction
Capacity Market Seller submit its request for Resource Specific Exception and the required documentation simultaneously to both the IMM and PJM	No later than 120 days prior to the commencement of the offer period for the RPM Auction.
IMM reviews the request and provide determination to both Capacity Market Seller and PJM	No later than 90 days prior to the commencement of the offer period for the RPM Auction
PJM reviews the request and provides determination to both Capacity Market Seller and IMM	No later than 65 days prior to the commencement of the offer period of the RPM Auction
If PJM grants a Resource-Specific Exception, the Capacity Market Seller shall notify the IMM and PJM of the minimum level of Sell Offer, consistent with such determination, to which it agrees to commit	No later than 60 days prior to the commencement of the offer period for the RPM Auction
Capacity Market Seller certifies the State Subsidy status of each Demand Resource and EE Resource it intends to offer	No later than 30 days prior to commencement of the offer period for the RPM Auction
Capacity Market Seller election of Competitive Exemption by certifying to forego State Subsidy	No later than 30 days prior to commencement of the offer period for the RPM Auction

#### **5.4.5.5 Resource-Specific Exception Process for MOPR Floor Offer Prices**

##### **A. Documentation Required in the Resource Specific Exception Process for New Resources**

The Capacity Market Seller of a new Generation Capacity Resource that is subject to the MOPR of OATT Attachment DD, section 5.14(h) or a New Entry Capacity Resource with State Subsidy that is subject to the MOPR of OATT Attachment DD, section 5.14(h-1) may request a resource-specific MOPR Floor Offer Price based on the net CONE of the resource by no later than 120 days prior to

the commencement of the offer period of the relevant RPM Auction by submitting a written request with all required documentation simultaneously to PJM and the IMM. The Capacity Market Seller must include in its request for an exception documentation to support the fixed development, construction, operation, and maintenance costs of the Capacity Resource, as well as estimates of the offsetting net revenues or sufficient data for PJM and the IMM to produce such net revenue estimates. Estimates of costs and revenues shall be supported at a level of detail comparable to the cost and revenue estimates used to support the Net CONE established for various resource types under section 5.14(h) and section 5.14(h-1) of Attachment DD of OATT. Supporting documentation for project costs may include, as applicable and available, the following:

- Complete project description;
- Environmental permits;
- Vendor quotes for plant or equipment;
- Evidence of actual costs of recent comparable projects;
- Bases for electric and gas interconnection costs and any costs contingencies;
- Bases for support for property taxes, insurances, operations and maintenance (O&M) contractor costs, and other fixed O&M and administrative or general costs;
- Financing documents for construction-period and permanent financing or evidence of recent debt costs of the seller for comparable investments;
- Bases and support for the claimed capitalization ratio, rate of return, cost-recovery period, inflation rate, or other parameters used in financial modeling; and
- Identification and support for any sunk cost that the Capacity Market Seller has reflected as a reduction to its Seller Offer.

The Capacity Market Seller must submit a sworn, notarized certification of a duly authorized officer, certifying that the officer has personal knowledge of the resource-specific exception request and that to the best of his/her knowledge and belief: (1) the information supplied to the Market Monitoring Unit and the Office of Interconnection to support its request for an exception is true and correct; (2) the Capacity Market Seller has disclosed all material facts relevant to the request for the exception; and (3) the request satisfies the criteria for the exception.

The financial modeling assumptions for calculating Cost of New Entry for Generation Capacity Resources and generation-backed Demand Resources shall be: (i) nominal levelization of gross costs, (ii) asset life of twenty years, (iii) no residual value, (iv) all project costs included with no sunk costs excluded, (v) use first year revenues (which may include revenues from the sale of renewable energy credits for purposes other than state-mandated or state-sponsored programs), and (vi) weighted average cost of capital based on the actual cost of capital for the entity proposing to build the Capacity Resource. Notwithstanding the foregoing, a Capacity Market Seller of a New Entry Capacity Resource with State Subsidy that seeks to utilize an asset life other than twenty years (but no greater than 35 years) shall provide evidence to support the use of a different asset life, including but not limited to, the asset life term for such resource as utilized in the Capacity Market Seller's financial accounting (e.g., independently audited financial statements). To the extent the seller has not executed project financing for the resource, the

Capacity Market Seller must submit evidence of actual costs or financing assumptions of recent comparable projects, opinions of third-party experts regarding the reasonableness of the financing assumptions used for the project itself or in comparable projects, or evidence presented in federal filings, such as its FERC Form No. 1 or an SEC Form 10-K, to demonstrate an asset life other than 20 years of similar asset projects.

The default assumptions for calculating resource-specific Cost of New Entry for Energy Efficiency Resources shall be based on, as supported by documentation provided by the Capacity Market Seller: the nominal-levelized annual cost to implement the Energy Efficiency program or to install the Energy Efficiency measure reflective of the useful life of the implemented Energy Efficiency equipment, and the offsetting savings associated with avoided wholesale energy costs and other claimed savings provided by implementing the Energy Efficiency program or installing the Energy Efficiency measure.

The default assumptions for calculating resource-specific Cost of New Entry for load-backed Demand Resources shall be based on, as supported by documentation provided by the Capacity Market Seller, program costs required for the resource to meet the capacity obligations of a Demand Resource, including all fixed operating and maintenance cost and weighted average cost of capital based on the actual cost of capital for the entity proposing to develop the Demand Resource.

For generation-backed Demand Resources, the determination of a resource-specific MOPR Floor Offer Price shall consider all costs associated with the generation unit supporting the Demand Resource, and demand charge management benefits at the retail level (as supported by documentation at the end-use customer level) may also be considered as an additional offset to such costs. Supporting documentation (at the end-use customer level) may include, but is not limited to, historic end-use customer bills and associated analysis that identifies the annual retail avoided cost from the operation of such generation unit or the business case to support installation of the generator or regulatory requirements where the generator would be required absent participation in the Reliability Pricing Model.

The request shall identify all revenue sources (exclusive of any State Subsidiaries) relied upon in the Sell Offer to offset the claimed fixed costs, including, without limitation, long-term power supply contracts, tolling agreements, or tariffs on file with state regulatory agencies, and shall demonstrate that such offsetting revenues are consistent, over a reasonable time period identified by the Capacity Market Seller.

For the 2021/2022 Delivery Year and prior Delivery Years, in making such demonstration, the Capacity Market Seller may rely upon forecasts of competitive electricity prices in the PJM Region based on well-defined models that include fully documented estimates of future fuel prices, variable operation and maintenance expenses, energy demand, emissions allowance prices, and expected environmental or energy policies that affect the seller's forecast of electricity prices in such region, employing input data from sources readily available to the public. Documentation for net revenues also may include, as available and applicable, plant performance and capability information, including heat rate, start-up times and costs, forced outage rates, planned outage

schedules, maintenance cycle, fuel costs and other variable operations and maintenance expenses, and ancillary service capabilities.

For the 2022/2023 Delivery Year and subsequent Delivery Years, in making such demonstration, the Capacity Market Seller may rely upon revenues projected by well defined, forward-looking dispatch models, designed to generally follow the rules and processes of PJM's energy and ancillary services markets. Such models must utilize publicly available forward prices for electricity and fuel in the PJM Region. Any modifications made to the forward electricity and fuel prices must similarly use publicly available data. Alternative forward prices for fuel may be used if accompanied by contractual evidence showing the applicability of the alternative fuel price. Where forward fuel markets are not available, publicly available estimates of future fuel prices may be used. The model shall also contain estimates of variable operation and maintenance costs, which may include Maintenance Adders, and emissions allowance prices. Documentation for net revenues also must include, as available and applicable, plant performance and capability information, including heat rate, start-up times and costs, forced outage rates, planned outage schedules, maintenance cycle, fuel costs and other variable operations and maintenance expenses, capacity factors and ancillary service capabilities.

In the alternative, the Capacity Market Seller may request that the IMM, subject to acceptance by the Office of Interconnection, produce a resource-specific Energy & Ancillary Services Offset value for such resource using the Forward Hourly LMPs, Forward Hourly Ancillary Service Prices, and either Forward Daily Natural Gas Prices for combustion turbines and combined cycle resources, or forecasted fuel prices for other resource types, and plant parameters and capability information specific to the dispatch of the Resource.

The Capacity Market Seller shall provide any additional supporting information reasonably requested by PJM or IMM to evaluate the Sell Offer. Requests for additional documentation shall not extend the deadline by which PJM or IMM must provide their determinations of the MOPR exception request.

An evaluated Sell Offer shall be permitted if the information provided reasonably demonstrates that the Sell Offer's competitive, cost-based, fixed, net cost of new entry is below the MOPR Floor Offer Price, based on competitive cost advantages, including, without limitation, competitive cost advantages resulting from the Capacity Market Seller's business model, financial condition, tax status, access to capital or other similar conditions affecting the applicant's cost, or based on net revenues that are reasonably demonstrated to be higher than those used by PJM in the development of the MOPR Floor Offer Price. The Capacity Market Seller must demonstrate that claimed cost advantages or sources of net revenue that are irregular or anomalous, that do not reflect arm's-length transactions, or that are not in the ordinary course of the Capacity Market Seller's business are consistent with the standards of this subsection.

Failure to adequately support costs or revenues so as to enable PJM to make a determination of the MOPR exception request will result in a denial of an exception by PJM.

## **B. Documentation Required in the Resource-Specific Exception Process for Cleared Capacity Resources with State Subsidy**

The Capacity Market Seller of a Cleared Capacity Resource with State Subsidy that is subject to the MOPR of OATT Attachment DD, section 5.14(h-1) may request a resource-specific MOPR Floor Offer Price by no later than 120 days prior to the commencement of the offer period of the relevant RPM Auction by submitting a written request with all required documentation simultaneously to PJM and the IMM. The Capacity Market Seller shall submit a Sell Offer based on the net ACR of the resource consistent with the unit-specific Market Seller Offer Cap process pursuant to Tariff, Attachment DD, section 6.8; except that the 10% uncertainty adder may not be included in the "Adjustment Factor."

The Capacity Market Seller must submit a sworn, notarized certification of a duly authorized officer, certifying that the officer has personal knowledge of the resource-specific exception request and that to the best of his/her knowledge and belief: (1) the information supplied to the Market Monitoring Unit and the Office of Interconnection to support its request for an exception is true and correct; (2) the Capacity Market Seller has disclosed all material facts relevant to the request for the exception; and (3) the request satisfies the criteria for the exception.

The request shall identify all revenue sources (exclusive of any State Subsidies) relied upon in the Sell Offer to offset the claimed fixed costs, including, without limitation, long-term power supply contracts, tolling agreements, or tariffs on file with state regulatory agencies, and shall demonstrate that such offsetting revenues are consistent, over a reasonable time period identified by the Capacity Market Seller.

In making such demonstration, the Capacity Market Seller may rely upon revenues projected by well defined, forward-looking dispatch models, designed to generally follow the rules and processes of PJM's energy and ancillary services markets. Such models must utilize publicly available forward prices for electricity and fuel in the PJM Region. Any modifications made to the forward electricity and fuel prices must similarly use publicly available data. Alternative forward prices for fuel may be used if accompanied by contractual evidence showing the applicability of the alternative fuel price. Where forward fuel markets are not available, publicly available estimates of future fuel prices may be used. The model shall also contain estimates of variable operation and maintenance costs, which may include Maintenance Adders, and emissions allowance prices. Documentation for net revenues also must include, as available and applicable, plant performance and capability information, including heat rate, start-up times and costs, forced outage rates, planned outage schedules, maintenance cycle, fuel costs and other variable operations and maintenance expenses, capacity factors and ancillary service capabilities.

In the alternative, the Capacity Market Seller may request that the Market Monitoring Unit, subject to acceptance by the Office of Interconnection, produce a resource-specific Energy & Ancillary Services Offset value for such resource using the Forward Hourly LMPs, Forward Hourly Ancillary Service Prices, and either Forward Daily Natural Gas Prices for combustion turbines and combined cycle resources, or forecasted fuel prices for other resource types, and plant parameters and capability information specific to the dispatch of the resource.

The resource-specific MOPR Floor Offer Price for a Cleared Capacity Resource with State Subsidy that is a generation-backed Demand Resource shall consider all costs associated with the generation unit supporting the Demand Resource, and demand charge management benefits at the retail level (as supported by documentation at the end-use customer level) may also be considered as an additional offset to such costs. Supporting documentation (at the end-use customer level) may include, but is not limited to, historic end-use customer bills and associated analysis that identifies the annual retail avoided cost from the operation of such generation unit.

#### **5.4.5.6 Default MOPR Floor Offer Prices**

##### **A. Default MOPR Floor Offer Prices for Certain New Generation Capacity Resources**

The default MOPR Floor Offer Price for certain new Generation Capacity Resources that are not Capacity Resources with State Subsidy is based on the net cost of new entry (“CONE”) of a new combustion turbine generation facility (“CT”) or new combined cycle generation facility (“CC”). The net CONE values are determined by subtracting the estimated net energy and ancillary service revenues from the gross cost of new entry (“CONE”) values shown in the table below. The gross CONE values of the table below are applicable to the 2018/2019 Delivery Year and are adjusted for Delivery Years subsequent to the 2018/2019 Delivery Year as described below. The net energy and ancillary services revenue estimate is determined for the CT and the CC in accordance with section 5.14(h)(3) of Attachment DD of the PJM OATT for each CONE Area based on the Zone within each CONE Area that has the highest net energy and ancillary service revenue estimate. Default MOPR Floor Offer Prices are expressed in terms of Unforced Capacity MW (“UCAP MW”) where the net CONE values are initially calculated for each resource type in terms of nameplate MW and then converted to UCAP MW terms based on the applicable class average EFORD of a CT or CC.

The default MOPR Floor Offer Prices determined as described in this section apply to new Generation Capacity Resources that (1) are not Capacity Resources with State Subsidy or (2) are Capacity Resources with State Subsidy for which the Market Seller has elected the competitive exemption, and that are located in an LDA for which a separate VRR Curve is established for the relevant Delivery Year unless the resource has cleared a prior RPM Auction for the relevant Delivery Year or any prior Delivery Year. The default MOPR Floor Offer Price for such new CTs and CCs is set to 90% of the Net CONE established for the CT and CC, respectively. The default MOPR Floor Offer Price for new generation resource types other than CTs and CCs will be set equal to 70% of the CT Net CONE except that the default MOPR Floor Offer Price is specified as \$0.00 for nuclear, coal, IGCC, hydro, wind and solar facilities.

##### **Gross CONE Values (in 2018/2019 \$/MW-Year) used for Default MOPR Floor Offer Price of Certain New Generation Capacity Resources that are Not Capacity Resources with State Subsidy**

	CONE Area 1	CONE Area 2	CONE Area 3	CONE Area 4
Combustion Turbine	132,200	130,300	128,990	130,300
Combined Cycle	185,700	176,000	172,600	179,400

Beginning with the Delivery Year that begins on June 1, 2019, the gross CONE values of the table above for the combustion turbine will be adjusted annually based on changes in the Applicable United States Bureau of Labor Statistics (“BLS”) Composite Index, ~~and then adjusted further by a factor of 1.022 starting with the 2023/2034 Delivery Year to reflect the annual decline in bonus depreciation scheduled under federal corporate tax law.~~ For the combustion turbine, the Applicable BLS Composite Index for any Delivery Year and CONE Area shall be the most recently published twelve-month change, at the time CONE values are required to be posted for the BRA for such Delivery Year, in a composite of the BLS Quarterly Census of Employment and Wages for Utility System Construction (weighted 20%), the BLS Producer Price Index for Construction Materials and Components (weighted 55%), and the BLS Producer Price Index Turbines and Turbine Generator Sets (weighted 25%). The gross CONE values of the table above for the combined cycle will be adjusted annually using an Applicable BLS Composite Index that is weighted 25% for the wage index, 60% for the construction materials index, and 15% for the turbines index. The Quarterly Census of Employment and Wages for Utility System Construction will be based on the state of New Jersey for CONE Area 1, Maryland for CONE Area 2, Ohio for CONE Area 3, and Pennsylvania for CONE Area 4.

#### **B. Default MOPR Floor Offer Price for New Entry Capacity Resources with State Subsidy**

The Default MOPR Floor Offer Price for New Entry Capacity Resources with State Subsidy is based on the net cost of new entry (“CONE”) of the applicable resource type. The net CONE values are determined by subtracting the estimated net energy and ancillary service revenues from the gross cost of new entry (“CONE”) values shown in the table below. The gross CONE values of the table below are applicable to the 2022/2023 Delivery Year ~~and are adjusted for Delivery Years subsequent to the 2022/2023 Delivery Year as described below.~~ The net energy and ancillary services revenue estimate is determined for each resource type and for each Zone as described in section 5.14(h-1)(2)(A)(i) through (ix) of Attachment DD of the PJM OATT.<sup>6</sup>

For the capacity resource types listed in the table below, the Default MOPR Floor Offer Price for New Entry Capacity Resources with State Subsidy is set equal to the net CONE of each resource type expressed in terms of Unforced Capacity (“UCAP”) MW where the net CONE values are initially calculated for each resource type in terms of nameplate MW and then converted to UCAP MW terms as follows: ~~For Delivery Years through the 2022/2023 Delivery Year,~~ based on the applicable class average EFORD for thermal generation resource types and battery energy storage resource types, the applicable class average capacity value factor for wind and solar generation resource types, and the applicable Forecast Pool Requirement for Demand Resources and EE Resources; ~~for the 2023/2024 Delivery Year and subsequent Delivery Years, based on the applicable class average EFORD for thermal generation resource types; for battery storage, wind, and solar resource types, the applicable ELCC Class Rating; or for Demand Resources and Energy Efficiency Resources, the Forecast Pool Requirement, as applicable to the relevant RPM Auction.~~ The resultant net CONE in nameplate MW terms of the battery energy storage resource type is

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<sup>6</sup> For the coal resource type, the net energy and ancillary services revenue estimate uses Northern Appalachian delivered prices from rail and barge.

multiplied by 2.5 prior to applying the class average EFORD of the battery energy storage resource type,

The Default MOPR Floor Offer Price for new entry load-backed Demand Resources (i.e., the MW portion of DR that is not supported by generation) is determined for each LDA as the MW-weighted average offer price of load-backed Demand Resources from the most recent three BRAs, where the MW-weighting is determined based on the portion of each Sell Offer for a load-backed portion of the DR that is identified by the CSP for the end-use customer locations on the registrations used in the pre-registration process of such BRAs.

The Default MOPR Floor Offer Price for new entry Energy Efficiency Resources shall be based on a default gross CONE value of \$644/ICAP MW-Day, which will be offset by transmission and distribution savings of \$95/ICAP MW-Day and projected wholesale energy savings. The projected wholesale energy savings, in \$/ICAP MW-Day are calculated prior to each auction as the product of assumed annual energy savings of 6,221 MWh/ICAP MW times the weighted average annual real-time forward hourly LMPs of the Zones of the representative energy efficiency programs, where the weighting is developed from the annual energy savings in the relevant Zones, divided by 365. This weighting is approximately 22.4% BGE Zone, 53.7% ComEd Zone and 23.9% PPL Zone.

**Gross CONE Values (in 2022/2023 \$/MW-Day) used to Determine Default MOPR Floor Offer Price of New Entry Capacity Resources with State Subsidy**

Resource Type	Gross CONE (2022/2023 \$/MW-Day) (Nameplate)
Nuclear	\$2,000
Coal	\$1,068
Combined Cycle	\$320
Combustion Turbine	\$294
Fixed Solar PV	\$271
Tracking Solar PV	\$290
Onshore Wind	\$420
Offshore Wind	\$1,155
Battery Energy Storage	\$532
Diesel Generation Backed Demand Response	\$254

~~Beginning with the 2023/2024 Delivery Year, the gross CONE values of the table above will be adjusted annually based on changes in the Applicable United States Bureau of Labor Statistics (“BLS”) Composite Index, and then adjusted further by a factor of 1.022 to reflect the annual decline in bonus depreciation scheduled under federal corporate tax law. The Applicable BLS Composite Index for the combustion turbine and combined cycle resource types shall be the most recently published twelve-month change, at the time CONE values are required to be posted for the BRA for such Delivery Year, in a composite of the BLS Quarterly Census of Employment and Wages for Utility System Construction (weighted 20%), the BLS Producer Price Index for~~

~~Construction Materials and Components (weighted 55%), and the BLS Producer Price Index Turbines and Turbine Generator Sets (weighted 25%). For all other resource types, the “BLS Producer Price Index Turbines and Turbine Generator Sets” component shall be replaced with the “BLS Producer Price Index Final Demand, Goods Less Food & Energy, Private Capital Equipment” and the resultant value shall then be then adjusted further by a factor of 1.022 for nuclear, coal, and generation backed Demand Resource types or 1.01 for solar, wind, and storage resource types to reflect the annual decline in bonus depreciation scheduled under federal corporate tax law.~~

### **C. Default Gross Avoidable Cost Rate for Cleared Capacity Resources with State Subsidy**

The MOPR Floor Offer Price of a Cleared Capacity Resource with State Subsidy is based on the net Avoidable Cost Rate (“ACR”) of the resource determined by subtracting the estimated net energy and ancillary service revenues of the resource from the gross ACR of the resource. The MOPR Floor Offer Price of a Cleared Capacity Resource with State Subsidy shall be, at the election of the Capacity Market Seller, either (i) based on the resource-specific net Avoidable Cost Rate (“ACR”), or (ii) if available, the default gross ACR of the applicable resource type shown in the table below net of energy and ancillary services revenue determined for the resource as described in section 5.4.5.7 of this manual. The gross ACR values of the table below are applicable to the 2022/2023 Delivery Year ~~and are adjusted for Delivery Years subsequent to the 2022/2023 Delivery Year using the 10-year average Handy-Whitman Index to account for expected inflation.~~

For purposes of submitting a Sell Offer, the net ACR values are expressed in terms of Unforced Capacity (“UCAP”) MW where the net ACR values are initially calculated for each resource in terms of nameplate MW and then converted to UCAP MW terms based on: ~~for Delivery Years through the 2022/2023 Delivery Year,~~ the resource-specific EFORD for thermal generation resource types and battery energy storage resource types, the resource-specific capacity value factor for solar and wind generation resource types (based on the ratio of Capacity Interconnection Rights to nameplate capacity, appropriately time-weighted for any winter Capacity Interconnection Rights), or the Forecast Pool Requirement applicable to the relevant RPM Auction for Demand Resources and Energy Efficiency Resources, ~~and for the 2023/2024 Delivery Year and subsequent Delivery Years, the resource-specific EFORD for thermal generation resource types and on the resource-specific Accredited UCAP value for solar and wind resource types (with appropriate time-weighting for any winter Capacity Interconnection Rights), or the Forecast Pool Requirement for Demand Resources and Energy Efficiency Resources, as applicable to the relevant RPM Auction.~~ The resultant net ACR in nameplate MW terms of the battery energy storage resource type is multiplied by 2.5 prior to applying the resource-specific EFORD of the battery energy storage resource type,

### **Default Gross ACR Values (in 2022/2023 \$/MW-Day) used to determine MOPR Floor Offer Price of Cleared Capacity Resources with State Subsidy**

	<b>Gross ACR</b>
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Resource Type	(2022/2023 \$/MW-Day) (Nameplate)
Nuclear – Single Unit	\$697
Nuclear – Multi Unit	\$445
Coal	\$80
Combined Cycle	\$56
Combustion Turbine	\$50
Solar PV (Fixed and Tracking)	\$40
Onshore Wind	\$83
Diesel Generation Backed Demand Response	\$3
Load Backed Demand Response	\$0
Energy Efficiency	\$0

#### 5.4.5.7 Resource-Specific Net EAS Determinations

A resource-specific EAS calculation will be required for any Capacity Market Seller that seeks to obtain a resource-specific exception from the default MOPR Floor Offer Prices. The IMM will develop the default Net EAS values for all resources that seek a resource-specific exception and for Cleared Capacity Resources with State Subsidy using a set of standard inputs based on resource’s actual operating parameters, cost data, pricing points. The Projected EAS Dispatch or assumed output models, as applicable for the resource type, will be used as the standard model in developing the EAS values using these inputs.

The default Net EAS value of an existing generation resource shall be determined in accordance with the applicable resource type net energy and ancillary services revenue determination methodology set forth in Tariff, Attachment DD, section 5.14(h-1)(2)(A)(i) through (ix) and using the subject resource’s operating parameters as determined based on (a) offers submitted in the Day-ahead Energy Market and Real-time Energy Market over the calendar year preceding the time of the determination for the RPM Auction; (b) the resource-specific operating parameters approved, as applicable, in accordance with Operating Agreement, Schedule 1, section 6.6(b) and Operating Agreement, Schedule 2 (including any Fuel Costs, emissions costs, Maintenance Adders, and Operating Costs); (c) the resource’s EFORD; (d) Forward Hourly LMPs at the generation bus as determined in accordance with Tariff, Attachment DD, section 5.10(a)(v-1)(C)(6); and (e) the resource’s stated annual revenue requirement for reactive services; plus any unit-specific bilateral contract. In addition, the following resource type-specific parameters shall be considered; (f) for combustion turbine, combined cycle, and coal resource types: the installed capacity rating, ramp rate (which shall be equal to the maximum ramp rate included in the resource’s energy offers over the most recent previous calendar year preceding the determination for the RPM Auction), and the heat rate as determined as the resource’s average heat rate at full load as submitted to the IMM and PJM, where for combined cycle resources heat rates will be determined at base load and at peak load (e.g., without duct burners and with duct burners), as applicable; (g) for nuclear resource type: an average equivalent availability factor of all PJM nuclear resources to account for refueling outages; (h) for solar and wind resource types: the resource’s output profiles for the most recent three calendar years, as available; and (i) for battery storage resource type: the nameplate capacity rating (on a MW / MWh basis).

To the extent the resource has not achieved commercial operation, the operating parameters used in the simulation of the net energy and ancillary service revenues will be based on the manufacturer's specifications and/or from parameters used for other existing, comparable resources, as developed by the IMM and the Capacity Market Seller, and accepted by the Office of the Interconnection.

Adjustments to resource-specific operating parameters may be submitted to the IMM and PJM for review and consideration in the simulated dispatch with supporting documentation; however, Capacity Market Sellers may only seek a customized EAS value under the resource-specific exception process if they are also seeking a resource-specific Gross CONE or resource-specific ACR.

In the alternative, the Capacity Market Seller may provide their own estimate of Projected PJM Market Revenues to the IMM and PJM for review and approval. Such a request shall identify all revenue sources (exclusive of any State Subsidies), including, without limitation, long-term power supply contracts, tolling agreements, or tariffs on file with state regulatory agencies, and shall demonstrate that such offsetting revenues are consistent, over a reasonable time period identified by the Capacity Market Seller, with the standards prescribed above. In making such demonstration, the Capacity Market Seller may rely upon revenues projected by well-defined, forward-looking dispatch models designed to generally follow the rules and processes of PJM's energy and ancillary services markets. Such models must utilize forward prices for energy, ancillary service and fuel in the PJM Region based on contractual evidence of an alternative fuel price or sourced from liquid forward markets (where available), and other publicly available data to develop the forward prices used in the estimate. Where forward fuel markets are not available, publicly available estimates of future fuel sources may be used. The model shall also contain estimates of variable operation and maintenance expenses, which may include Maintenance Adders, and emissions allowance prices. Documentation for net revenues also must include, as available and applicable, plant performance and capability information, including heat rate, start-up times and costs, forced outage rates, planned outage schedules, maintenance cycle, fuel costs and other variable operations and maintenance expenses, capacity factors, and ancillary service capabilities. Any evaluation of revenues should include, but would not be not limited to, consideration of Fuel Costs, Maintenance Adders and Operating Costs, as applicable, pursuant to Operating Agreement, Schedule 2.

#### **5.4.6 Qualified Transmission Upgrade Sell Offer Requirements**

A Qualifying Transmission Upgrade sell offer will specify, as appropriate:

- Increase in CETL provided by the upgrade (maximum MW, as certified by PJM Transmission Planning Department)
- Minimum MW offered (min = max for upgrades that involve a single equipment upgrade, min could be less than max where participant is proposing multiple upgrades or upgrades to several pieces of equipment)
- Source and sink LDAs associated with the upgrade

- Price willing to receive for each segment in \$/MW-day specified as the price difference between the sink LDA price and the source LDA price

The increase in CETL provided by a Qualifying Transmission Upgrade must be certified by PJM at least 45 days prior to the Base Residual Auction.

Cleared sell offers and offers receiving Make-Whole payments are binding commitments to provide capacity.

#### **5.4.7 Removal of Generation Capacity Resource Status**

A Capacity Market Seller seeking to remove Capacity Resource status from a Generation Capacity Resource shall submit a preliminary and final written request to PJM and the IMM, along with supporting data and documentation, in accordance with Tariff, Attachment DD, section 6.6(g).

- Requests shall be submitted to PJM via email to the [rpm\\_hotline@pjm.com](mailto:rpm_hotline@pjm.com) and to the IMM through the MIRA application.
- Preliminary requests must be submitted no later than September 1 prior to a BRA, and 240 days prior to an IA. Final requests must be submitted no later than December 1 prior to a BRA, and 120 days prior to an IA.
- The preliminary request must provide the following information:
  - Identification of the Generation Capacity Resource and MW
  - The beginning Delivery Year in which the Seller is seeking to remove Capacity Resource status from the resource
  - Supporting data and documentation indicating the reasons and conditions upon which the Seller is relying in its analysis to remove Capacity Resource status from the resource
- PJM will post the preliminary and final requested MW of Capacity Resource status changes on an aggregate basis by Zone and LDA that comprises a subset of a Zone.

A request will not be accepted for a resource that holds a capacity commitment during the time period in which it seeks to no longer be a Capacity Resource.

The IMM will analyze the effects of removing Capacity Resource status with respect to potential market power concerns and notify the Seller and PJM of its determination no later than 90 days prior to the applicable RPM auction. Subsequently, PJM shall provide its final determination no later than 65 days prior to the applicable RPM auction.

PJM Planning will be notified of requests and final approvals to incorporate the loss of Capacity Resource status in the appropriate planning models and reliability studies.

Once the Capacity Resource status is removed from a Generation Capacity Resource:

- The generation unit will no longer qualify as an Existing Generation Capacity Resource, and as such, will be removed from the Capacity Resource model and no longer eligible to offer in RPM auctions or take on a capacity commitment.

- The Capacity Interconnection Rights associated with the resource shall be subject to termination in accordance with the rules described in Tariff, Part VI, section 230.3.3.
  - The relevant ISA or WMPA of a Generation Capacity Resource that is removed of its Capacity Resource status will be amended to reflect any such removal of Capacity Interconnection Rights.

#### **5.4.8 Minimum Offer Price Rule Effective with the 2023/2024 Delivery Year**

The Minimum Offer Price Rule (MOPR) provisions of Section 5.14(h-2) of Attachment DD of the PJM OATT are applicable to each Generation Capacity Resource that is offered into RPM Auctions for the 2023/2024 Delivery Year and all subsequent Delivery Years.

##### **5.4.8.1 MOPR-Related Business Rules and Process Timeline**

The following business rules apply to the sell offer of any Generation Capacity Resource that in an RPM Auction is subject to the MOPR of Tariff, Attachment DD, section 5.14(h-2):

- The timeline for pre-auction activities related to MOPR is specified in the table below.
- The MOPR Floor Offer Price applicable to a Generation Capacity Resource that based on the certification process described below is subject to the MOPR is dependent upon whether the resource or uprate of the resource previously cleared in an RPM auction for any Delivery Year.
- For a Generation Capacity Resource that is subject to the MOPR and for which a Sell Offer based on that resource, or any uprate of the Generation Capacity Resource, has not previously cleared an RPM Auction for any Delivery Year, the applicable New Entry MOPR Floor Offer Price, based on the net cost of new entry for the resource, shall be, at the election of the Capacity Market Seller, either (i) the unit-specific value determined in accordance with the unit-specific exception process for MOPR Floor Offer Prices, or (ii) the default New Entry MOPR Floor Offer Price, if available, of the applicable resource type. A Capacity Market Seller must seek a unit-specific MOPR Floor Offer Price if the resource is of a type for which there is no default New Entry MOPR Floor Offer Price, including hybrid resources. Failure to obtain a unit-specific MOPR Floor Offer Price will result in the Office of the Interconnection rejecting any Sell Offer for such resource for the relevant RPM Auction.
- For a Generation Capacity Resource that is subject to the MOPR and for which a Sell Offer based on that resource has previously cleared an RPM Auction for any Delivery Year, the applicable Cleared MOPR Floor Offer Price, based on the net Avoidable Cost Rate, shall be, at the election of the Capacity Market Seller, either (i) the unit-specific value determined in accordance with the unit-specific exception process for MOPR Floor Offer Prices, or (ii) based on the default gross Avoidable Cost Rate, if available, of the applicable resource type net of projected net energy and ancillary service revenues for the resource (Net ACR). A Capacity Market Seller must seek a unit-specific MOPR Floor Offer Price if the resource is of a type for which there is no default gross Avoidable Cost Rate, including hybrid resources. Failure to obtain a unit-specific MOPR Floor Offer Price will result in the

Office of the Interconnection rejecting any Sell Offer for such resource for the relevant RPM Auction.

- The MOPR Floor Offer Price of any Capacity Resource that is subject to the MOPR is expressed in terms of Unforced Capacity MW (“UCAP MW”). A resource’s MOPR Floor Offer Price in \$/UCAP MW-Day is applicable to each MW offered by the resource that is subject to MOPR regardless of the actual Sell Offer quantity and regardless of whether the Sell Offer is for a Seasonal Capacity Performance Resource.
- If any of the individual underlying resources of a commercially aggregated resource are subject to a MOPR Floor Offer Price, the MOPR Floor Offer Price applicable to the Sell Offer of such an aggregate resource is equal to the time and MW-weighted average of the applicable MOPR Floor Offer Prices (zero if applicable) of the individual aggregated resources.

**MOPR-Related Process Timeline**

<b><u>Activity</u></b>	<b><u>Deadline</u></b>
<u>PJM posts preliminary estimate of MOPR Floor Offer Prices</u>	<u>No later than 150 days prior to commencement of offer period for an RPM Auction</u>
<u>Capacity Market Seller certifies the status of each Generation Capacity Resource it intends to offer as it relates to Conditioned State Support and Exercise of Buyer-Side Market Power</u>	<u>No later than 150 days prior to commencement of offer period for an RPM Auction</u>
<u>PJM and/or IMM notify Capacity Market Seller of fact-specific review of ability and incentive to exercise Buyer-Side Market Power</u>	<u>No later than 135 days prior to commencement of offer period for an RPM Auction</u>
<u>Capacity Market Seller submits request for a Unit Specific Exception with all required documentation simultaneously to both the IMM and PJM</u>	<u>No later than 120 days prior to commencement of the offer period for the RPM Auction</u>
<u>IMM reviews the request and provides its findings to the Capacity Market Seller and PJM of whether the proposed Sell Offer is acceptable</u>	<u>No later than 90 days prior to the commencement of the offer period of the RPM Auction</u>
<u>PJM reviews the request and provides determination to the Capacity Market Seller and the IMM of whether the proposed sell offer is acceptable and if not provides a minimum sell offer based on data and documentation</u>	<u>No later than 65 days prior to the commencement of the offer period of the RPM Auction</u>
<u>Capacity Market Seller notifies PJM and IMM of minimum level of Sell Offer to which it agrees to commit</u>	<u>No later than 60 days prior to the commencement of the offer period of the RPM Auction</u>

#### **5.4.8.2 Certification Requirement**

By no later than 150 days prior to the commencement of the offer period of any RPM Auction conducted for the 2024/2025 Delivery Year and all subsequent Delivery Years, and by the date posted on the PJM website for the 2023/2024 Delivery Year, each Capacity Market Seller must certify for each Generation Capacity Resource the Capacity Market Seller intends to offer into the RPM Auction: (i) whether or not the Generation Capacity Resource is receiving or expected to receive Conditioned State Support under any legislative or other governmental policy or program that has been enacted or effective at the time of the certification, and (ii) whether or not the Capacity Market Seller acknowledges and understands that the Exercise of Buyer-Side Market Power is not permitted in RPM Auctions, and does not intend to submit a Sell Offer for their Generation Capacity Resource as an Exercise of Buyer-Side Market Power.

All Capacity Market Sellers are responsible for the timeliness and accuracy of each certification which is undertaken through PJM's Capacity Exchange system. Any Generation Capacity Resource for which a Capacity Market Seller has not timely submitted the certifications shall be subject to the provisions of the Minimum Offer Price Rule. Notwithstanding the foregoing, if a Capacity Market Seller submits a timely unit-specific exception for the relevant Delivery Year, and PJM approves the unit-specific MOPR Floor Offer Price, then the Capacity Market Seller may use such floor price regardless of whether it timely submitted the foregoing certifications.

Once a Capacity Market Seller has certified whether or not a Generation Capacity Resource is receiving or expected to receive Conditioned State Support, the status of such Capacity Resource will remain unchanged unless and until the Capacity Market Seller (or a subsequent Capacity Market Seller) that owns or controls such Capacity Resource provides a certification of a change in such status, the Office of the Interconnection removes such status, or by FERC order. All Capacity Market Sellers have an ongoing obligation to certify to PJM and the IMM a Generation Capacity Resource's material change in status regarding whether such resource is receiving or expected to receive Conditioned State Support within 30 days of such material change.

A Capacity Market Seller must certify for each Generation Capacity Resource the seller intends to offer into each RPM Auction that the seller acknowledges and understands that the Exercise of Buyer-Side Market Power is not permitted in RPM Auctions, and does not intend to submit a Sell Offer for their Generation Capacity Resource as an Exercise of Buyer-Side Market Power. In other words, this status does not carry forward from one auction to the next as does the status regarding Conditioned State Support.

#### **Conditioned State Support**

Conditioned State Support is any financial benefit required or incentivized by a state, or political subdivision of a state acting in its sovereign capacity, that is provided outside of PJM Markets and in exchange for the sale of a FERC-jurisdictional product conditioned on clearing in any RPM Auction, where "conditioned on clearing in any RPM Auction" refers to specific directives as to the level of the offer that must be entered for the relevant Generation Capacity Resource in the RPM Auction or directives that the Generation Capacity Resource is required to clear in any RPM

Auction. Conditioned State Support shall not include any Legacy Policy defined as any legislative, executive, or regulatory action that specifically directs a payment outside of PJM Markets to a designated or prospective Generation Capacity Resource and the enactment of such action predates October 1, 2021, regardless of when any implementing governmental action to effectuate the action to direct payment outside of PJM Markets occurs.

Government policies or programs that do not provide payments or other financial benefit outside of PJM markets and do not provide payment or other financial benefit in exchange for the sale of a FERC-jurisdictional product conditioned on clearing in any RPM Auction do not constitute Conditioned State Support. Examples of such government policies that do not constitute Conditioned State Support may include, but are not limited to: policies designed to procure, incent, or require environmental attributes, whether bundled or unbundled (e.g., Renewable Energy Credits, Zero Emission Credits; Regional Greenhouse Gas Initiative); economic development programs and policies; tax incentives; state retail default service auctions; policies or programs that provide incentives related to fuel supplies; any contract, legally enforceable obligation, or rate pursuant to the Public Utility Regulatory Policies Act or any other state-administered federal regulatory program (e.g., Cross-State Air Pollution Rule). In addition, Conditioned State Support shall not be determined solely based on the business model of the Capacity Market Seller, such that the fact that a Self-Supply Entity is the Capacity Market Seller, for example, is not a basis for determining Conditioned State Support.

If PJM reasonably believes a government policy or program would provide Conditioned State Support or a Capacity Market Seller certifies that it is receiving or is expected to receive Conditioned State Support associated with a given Generation Capacity Resource, PJM shall submit a filing at FERC indicating the intent to classify the government policy or program from which that support is derived as Conditioned State Support (and adding such policy or program to the list in Tariff, Attachment DD-3) and apply the Minimum Offer Price Rule to each Generation Capacity Resource reasonably expected to receive such Conditioned State Support.

Upon FERC acceptance that a government policy or program or contract with a state entity constitutes Conditioned State Support, a Generation Capacity Resource for which a Capacity Market Seller certifies that it is receiving Conditioned State Support or is reasonably expected to receive such Conditioned State Support, as identified by PJM, with the advice and input of the IMM, will be subject to the provisions of the Minimum Offer Price Rule.

#### **Exercise of Buyer-Side Market Power**

The Exercise of Buyer-Side Market Power means anti-competitive behavior of a Capacity Market Seller with a Load Interest, or directed by an entity with a Load Interest, to uneconomically lower RPM Auction Sell Offer(s) in order to suppress RPM Auction clearing prices for the overall benefit of the Capacity Market Seller's (and/or affiliates of Capacity Market Seller) portfolio of generation and load or that of the directing entity with a Load Interest. Load Interest means, for the purposes of the minimum offer price rule, responsibility for serving load within the PJM Region, whether by the Capacity Market Seller, an affiliate of the Capacity Market Seller, or by an entity with which

the Capacity Market Seller is in contractual privity with respect to the subject Generation Capacity Resource.

If a Capacity Market Seller does not certify that it acknowledges the prohibition of the Exercise of Buyer Side Market Power and the Capacity Market Seller intends to exercise Buyer-Side Market Power for this Generation Capacity Resource, then the underlying Capacity Resource will be subject to the MOPR. If PJM and/or the IMM reasonably suspects that a certification contains fraudulent or material misrepresentations such that the Capacity Market Seller's Generation Capacity Resource may be the subject of a Sell Offer that would be an Exercise of Buyer-Side Market Power or otherwise reasonably suspects that a Generation Capacity Resource may be the subject of a Sell Offer that would be an Exercise of Buyer-Side Market Power, then PJM and/or the IMM shall initiate a fact-specific review into the facts and circumstances regarding the Generation Capacity Resource and whether the Capacity Market Seller has the ability and incentive to exercise Buyer-Side Market Power with respect to such Generation Capacity Resource. During such fact-specific review, the Capacity Market Seller will have the opportunity to explain and justify why a Sell Offer for the Generation Capacity Resource would not be an Exercise of Buyer-Side Market Power.

PJM and/or the IMM shall notify the Capacity Market Seller of the bases for inquiry and initiation of review at least 135 days in advance of the RPM Auction conducted for the 2024/2025 Delivery Year and all subsequent Delivery Years, and by the date posted on the PJM website for the 2023/2024 Delivery Year. In initiating a review, PJM and/or the IMM shall provide the affected Capacity Market Seller, in writing, the basis for its inquiry, including, but not limited to, the Generation Capacity Resource(s), and the purported beneficiary of any price suppression. PJM and/or the IMM may request from the Capacity Market Seller additional information and documentation that is reasonably related to the basis for its inquiry, provided that, PJM and the IMM shall confer with the Capacity Market Seller in advance of any such requests. The Capacity Market Seller shall provide any additional supporting information and documentation requested by PJM and/or the IMM, and any other information and documentation the Capacity Market Seller believes may justify the conduct or action in question as not representing an Exercise of Buyer-Side Market Power, within 15 days or other such timeline as agreed to in writing by the PJM, Market Monitoring Unit and Capacity Market Seller.

The fact-specific review will determine, as necessary, whether a Capacity Market Seller has the ability and incentive to submit a Sell Offer for the Generation Capacity Resource that could be an Exercise of Buyer-Side Market Power, in accordance with the provisions of Sections 5.14(h-2)(2(B)(i)(a) and (b) of Attachment DD.

The following non-exhaustive list of circumstances would preclude an inquiry into or determination regarding an Exercise of Buyer-Side Market Power in the course of a review: (a) the Generation Capacity Resource is a merchant generation supply resources that is not contracted to an entity with a Load Interest; (b) the Generation Capacity Resource is acquired by or under the contractual control of the Capacity Market Seller through a competitive and non-discriminatory procurement process open to new and existing resources; or (c) the Generation Capacity Resource is owned by or bilaterally contracted to a Self-Supply Seller and such resource is

demonstrated as consistent with or included in the Self-Supply Seller's long-range resource plan (e.g., a long-range hedging plan) that is approved or otherwise reviewed and accepted by the RERRA, provided that any such plan approval or contracts do not direct the submission of an uneconomic offer to deliberately lower market clearing prices or for the Capacity Market Seller to otherwise perform an Exercise of Buyer-Side Market Power. In addition, to the extent a Generation Capacity Resource may receive compensation in support of characteristics aligned with well-demonstrated customer preferences, such compensation shall not, in and of itself, be a basis for the determination of Buyer-Side Market Power. For purposes of evaluating Buy-Side Market Power, Self-Supply Seller is a vertically integrated utility or public power entity where vertically integrated utility means a utility that owns generation, includes such generation in its state-regulated rates, and earns a state-regulated return on its investment in such generation; and public power entity means electric cooperatives that are either rate regulated by the state or have their long-term resource plan approved or otherwise reviewed and accepted by a Relevant Electric Retail Regulatory Authority and municipal utilities or joint action agencies that are subject to direct regulation by a Relevant Electric Retail Regulatory Authority.

Based on the fact-specific review, including the facts and circumstances of the Generation Capacity Resource, with the advice and input of the IMM, PJM shall determine whether a Generation Capacity Resource may be the subject of a Sell Offer that would be an Exercise of Buyer-Side Market Power. If PJM determines that a Generation Capacity Resource may be the subject of a Sell Offer that would be an Exercise of Buyer-Side Market Power or the Capacity Market Seller certifies that it intends to exercise Buyer-Side Market Power, then such resource will be subject to the provisions of the Minimum Offer Price Rule. If the resource will be subject to the provisions of the Minimum Offer Price Rule, PJM shall include in the notice a written explanation for such determination. A Capacity Market Seller that is dissatisfied with the PJM's determination of whether a given Generation Capacity Resource is subject to the Minimum Offer Price Rule may seek any remedies available to it from FERC; provided, however, that PJM will proceed with administration of the Tariff and market rules based on its determination unless FERC by order directs otherwise.

#### **5.4.8.3 Unit-Specific Exception Process for MOPR Floor Offer Prices**

##### **A. Documentation Required in the Unit-Specific Exception Process for New Entry MOPR Floor Offer Price**

The Capacity Market Seller of a Generation Capacity Resource that is subject to the MOPR of OATT Attachment DD, section 5.14(h-2) and for which a Sell Offer based on that resource, or any uprate of the Generation Capacity Resource, has not previously cleared an RPM Auction for any Delivery Year may request a unit-specific MOPR Floor Offer Price based on the net CONE of the resource by no later than 120 days prior to the commencement of the offer period of the relevant RPM Auction. Such request must be made simultaneously to PJM and the IMM and must include all required documentation. The Capacity Market Seller must include in its request for an exception documentation to support the fixed development, construction, operation, and maintenance costs of the Capacity Resource, as well as estimates of the offsetting net revenues or sufficient data for PJM and the IMM to produce such net revenue estimates. Estimates of costs

and revenues shall be supported at a level of detail comparable to the cost and revenue estimates used to support the default New Entry MOPR Floor Offer Price established for various resource types. Supporting documentation for project costs may include, as applicable and available, the following:

- Complete project description;
- Environmental permits;
- Vendor quotes for plant or equipment;
- Evidence of actual costs of recent comparable projects;
- Bases for electric and gas interconnection costs and any costs contingencies;
- Bases for support for property taxes, insurances, operations and maintenance (O&M) contractor costs, and other fixed O&M and administrative or general costs;
- Financing documents for construction-period and permanent financing or evidence of recent debt costs of the seller for comparable investments;
- Bases and support for the claimed capitalization ratio, rate of return, cost-recovery period, inflation rate, or other parameters used in financial modeling; and
- Identification and support for any sunk cost that the Capacity Market Seller has reflected as a reduction to its Seller Offer.

The Capacity Market Seller must submit a sworn, notarized certification of a duly authorized officer, certifying that the officer has personal knowledge of the resource-specific exception request and that to the best of his/her knowledge and belief: (1) the information supplied to the Market Monitoring Unit and the Office of Interconnection to support its request for an exception is true and correct; (2) the Capacity Market Seller has disclosed all material facts relevant to the request for the exception; and (3) the request satisfies the criteria for the exception.

The financial modeling assumptions for calculating Cost of New Entry for Generation Capacity Resources shall be: (i) nominal levelization of gross costs, (ii) asset life of twenty years, (iii) no residual value, (iv) all project costs included with no sunk costs excluded, (v) use first year revenues (which may include revenues from the sale of renewable energy credits for purposes other than state-mandated or state-sponsored programs), and (vi) weighted average cost of capital based on the actual cost of capital for the entity proposing to build the Capacity Resource. Notwithstanding the foregoing, a Capacity Market Seller that seeks to utilize an asset life other than twenty years (but no greater than 35 years) shall provide evidence to support the use of a different asset life, including but not limited to, the asset life term for such resource as utilized in the Capacity Market Seller's financial accounting (e.g., independently audited financial statements), or project financing documents for the resource or evidence of actual costs or financing assumptions of recent comparable projects to the extent the seller has not executed project financing for the resource (e.g., independent project engineer opinion or manufacturer's performance guarantee), or opinions of third-party experts regarding the reasonableness of the financing assumptions used for the project itself or in comparable projects. Capacity Market Sellers may also rely on evidence presented in federal filings, such as its FERC Form No. 1 or an SEC Form 10-K, to demonstrate an asset life other than 20 years of similar asset projects.

The request shall identify all revenue sources (exclusive of any Conditioned State Support or bilateral contracts that direct submission of an offer to lower RPM Auction clearing prices) relied upon in the Sell Offer to offset the claimed fixed costs, including, without limitation, long-term power supply contracts, tolling agreements, or tariffs on file with state regulatory agencies, and shall demonstrate that such offsetting revenues are consistent, over a reasonable time period identified by the Capacity Market Seller.

In making such demonstration, the Capacity Market Seller may rely upon revenues projected by well defined, forward-looking dispatch models, designed to generally follow the rules and processes of PJM's energy and ancillary services markets. Such models must utilize publicly available forward prices for electricity and fuel in the PJM Region. Any modifications made to the forward electricity and fuel prices must similarly use publicly available data. Alternative forward prices for fuel may be used if accompanied by contractual evidence showing the applicability of the alternative fuel price. Where forward fuel markets are not available, publicly available estimates of future fuel prices may be used. The model shall also contain estimates of variable operation and maintenance costs, which may include Maintenance Adders, and emissions allowance prices. Documentation for net revenues also must include, as available and applicable, plant performance and capability information, including heat rate, start-up times and costs, forced outage rates, planned outage schedules, maintenance cycle, fuel costs and other variable operations and maintenance expenses, capacity factors and ancillary service capabilities.

In the alternative, the Capacity Market Seller may request that the IMM, subject to acceptance by the Office of Interconnection, produce a resource-specific Energy & Ancillary Services Offset value for such resource using the Forward Hourly LMPs, Forward Hourly Ancillary Service Prices, and either Forward Daily Natural Gas Prices for combustion turbines and combined cycle resources, or forecasted fuel prices for other resource types, and plant parameters and capability information specific to the dispatch of the Resource.

The Capacity Market Seller shall provide any additional supporting information reasonably requested by PJM or IMM to evaluate the Sell Offer. Requests for additional documentation shall not extend the deadline by which PJM or IMM must provide their determinations of the MOPR exception request.

An evaluated Sell Offer shall be permitted if the information provided reasonably demonstrates that the Sell Offer's competitive, cost-based, fixed, net cost of new entry is below the MOPR Floor Offer Price, based on competitive cost advantages, including, without limitation, competitive cost advantages resulting from the Capacity Market Seller's business model, financial condition, tax status, access to capital or other similar conditions affecting the applicant's cost, or based on net revenues that are reasonably demonstrated to be higher than those used by PJM in the development of the MOPR Floor Offer Price. The Capacity Market Seller must demonstrate that claimed cost advantages or sources of net revenue that are irregular or anomalous, that do not reflect arm's-length transactions, or that are not in the ordinary course of the Capacity Market Seller's business are consistent with the standards of this subsection.

Failure to adequately support costs or revenues so as to enable PJM to make a determination of the MOPR exception request will result in a denial of an exception by PJM.

**B. Documentation Required in the Unit-Specific Exception Process for Cleared MOPR Floor Offer Price**

The Capacity Market Seller of a Generation Capacity Resource that is subject to the MOPR of OATT Attachment DD, section 5.14(h-2) and for which a Sell Offer based on that resource has previously cleared an RPM Auction for any Delivery Year may request a unit-specific MOPR Floor Offer Price based on the net ACR of the resource by no later than 120 days prior to the commencement of the offer period of the relevant RPM Auction. Such request must be made simultaneously to PJM and the IMM and must include all required documentation. The Capacity Market Seller shall submit a Sell Offer based on the net ACR of the resource consistent with the unit-specific Market Seller Offer Cap process pursuant to Tariff, Attachment DD, section 6.8; except that the 10% uncertainty adder may not be included in the "Adjustment Factor."

The Capacity Market Seller must submit a sworn, notarized certification of a duly authorized officer, certifying that the officer has personal knowledge of the unit-specific exception request and that to the best of his/her knowledge and belief: (1) the information supplied to the Market Monitoring Unit and the Office of Interconnection to support its request for an exception is true and correct; (2) the Capacity Market Seller has disclosed all material facts relevant to the request for the exception; and (3) the request satisfies the criteria for the exception.

The request shall identify all revenue sources (exclusive of any Conditioned State Support or bilateral contracts that direct submission of an offer to lower RPM Auction clearing prices) relied upon in the Sell Offer to offset the claimed fixed costs, including, without limitation, long-term power supply contracts, tolling agreements, or tariffs on file with state regulatory agencies, and shall demonstrate that such offsetting revenues are consistent, over a reasonable time period identified by the Capacity Market Seller.

In making such demonstration, the Capacity Market Seller may rely upon revenues projected by well defined, forward-looking dispatch models, designed to generally follow the rules and processes of PJM's energy and ancillary services markets. Such models must utilize publicly available forward prices for electricity and fuel in the PJM Region. Any modifications made to the forward electricity and fuel prices must similarly use publicly available data. Alternative forward prices for fuel may be used if accompanied by contractual evidence showing the applicability of the alternative fuel price. Where forward fuel markets are not available, publicly available estimates of future fuel prices may be used. The model shall also contain estimates of variable operation and maintenance costs, which may include Maintenance Adders, and emissions allowance prices. Documentation for net revenues also must include, as available and applicable, plant performance and capability information, including heat rate, start-up times and costs, forced outage rates, planned outage schedules, maintenance cycle, fuel costs and other variable operations and maintenance expenses, capacity factors and ancillary service capabilities.

In the alternative, the Capacity Market Seller may request that the Market Monitoring Unit, subject to acceptance by the Office of Interconnection, produce a unit-specific Energy & Ancillary Services Offset value for such resource using the Forward Hourly LMPs, Forward Hourly Ancillary Service Prices, and either Forward Daily Natural Gas Prices for combustion turbines and combined cycle resources, or forecasted fuel prices for other resource types, and plant parameters and capability information specific to the dispatch of the Resource.

**5.4.8.4 Default MOPR Floor Offer Prices**

**A. Default New Entry MOPR Floor Offer Price**

The Default New Entry MOPR Floor Offer Price for a Generation Capacity Resource that is subject to the MOPR and for which a Sell Offer based on that resource, or any uprate of the Generation Capacity Resource, has not previously cleared an RPM Auction for any Delivery Year is based on the net cost of new entry (“CONE”) of the applicable resource type. The net CONE values are determined by subtracting the estimated net energy and ancillary service revenues from the gross cost of new entry (“CONE”) values shown in the table below. The gross CONE values of the table below are applicable to the 2022/2023 Delivery Year and are adjusted for Delivery Years subsequent to the 2022/2023 Delivery Year as described below. The net energy and ancillary services revenue estimate is determined for each resource type and for each Zone as described in sections 5.14(h-2)(3)(A)(i) through (viii) of Attachment DD of the PJM OATT.<sup>7</sup>

For the capacity resource types listed in the table below, the Default New Entry MOPR Floor Offer Price is set equal to the net CONE of each resource type expressed in terms of Unforced Capacity (“UCAP”) MW where the net CONE values are initially calculated for each resource type in terms of nameplate MW and then converted to UCAP MW terms based on the applicable class average EFORD for thermal generation resource types and battery energy storage resource types and the applicable ELCC Class Rating for battery storage, wind and solar generation resource types. The resultant net CONE in nameplate MW terms of the battery energy storage resource type is multiplied by 2.5 prior to applying the class average EFORD of the battery energy storage resource type.

**Gross CONE Values (in 2022/2023 \$/MW-Day) used to Determine Default New Entry MOPR Floor Offer Prices**

<u>Resource Type</u>	<u>Gross CONE (2022/2023 \$/MW-Day) (Nameplate)</u>
<u>Nuclear</u>	<u>\$2,000</u>
<u>Coal</u>	<u>\$1,068</u>
<u>Combined Cycle</u>	<u>\$320</u>
<u>Combustion Turbine</u>	<u>\$294</u>
<u>Fixed Solar PV</u>	<u>\$271</u>
<u>Tracking Solar PV</u>	<u>\$290</u>

<sup>7</sup> For the coal resource type, the net energy and ancillary services revenue estimate uses Northern Appalachian delivered prices from rail and barge.

<u>Onshore Wind</u>	<u>\$420</u>
<u>Offshore Wind</u>	<u>\$1,155</u>
<u>Battery Energy Storage</u>	<u>\$532</u>

Beginning with the 2023/2024 Delivery Year, the gross CONE values of the table above will be adjusted annually based on changes in the Applicable United States Bureau of Labor Statistics (“BLS”) Composite Index, and then adjusted further by a factor of 1.022 to reflect the annual decline in bonus depreciation scheduled under federal corporate tax law. The Applicable BLS Composite Index for the combustion turbine and combined cycle resource types shall be the most recently published twelve-month change, at the time CONE values are required to be posted for the BRA for such Delivery Year, in a composite of the BLS Quarterly Census of Employment and Wages for Utility System Construction (weighted 20%), the BLS Producer Price Index for Construction Materials and Components (weighted 55%), and the BLS Producer Price Index Turbines and Turbine Generator Sets (weighted 25%). For all other resource types, the “BLS Producer Price Index Turbines and Turbine Generator Sets” component shall be replaced with the “BLS Producer Price Index Final Demand, Goods Less Food & Energy, Private Capital Equipment” and the resultant value shall then be then adjusted further by a factor of 1.022 for nuclear and coal resource types or 1.01 for solar, wind, and storage resource types to reflect the annual decline in bonus depreciation scheduled under federal corporate tax law.

**B. Default Gross Avoidable Cost Rate for Determination of Cleared MOPR Floor Offer Prices**

For a Generation Capacity Resource that is subject to the MOPR and for which a Sell Offer based on that resource has previously cleared an RPM Auction for any Delivery Year, the applicable Cleared MOPR Floor Offer Price is based on the net Avoidable Cost Rate determined by subtracting the estimated net energy and ancillary service revenues of the resource from the gross ACR of the resource. The Cleared MOPR Floor Offer Price of a Generation Capacity Resource shall be, at the election of the Capacity Market Seller, either (i) based on the unit-specific net Avoidable Cost Rate (“ACR”), or (ii) if available, the default gross ACR of the applicable resource type shown in the table below net of energy and ancillary services revenue determined for the resource as described in section 5.4.8.5 of this manual. The gross ACR values of the table below are applicable to the 2022/2023 Delivery Year and are adjusted for Delivery Years subsequent to the 2022/2023 Delivery Year using the 10-year average Handy-Whitman Index to account for expected inflation.

For purposes of submitting a Sell Offer, the net ACR values are expressed in terms of Unforced Capacity (“UCAP”) MW where the net ACR values are initially calculated for each resource in terms of nameplate MW and then converted to UCAP MW terms based on the unit-specific EFORD for thermal generation resource types and battery energy storage resource types and the unit-specific Accredited UCAP value for battery energy storage, solar and wind generation resource types (appropriately time-weighted for any winter Capacity Interconnection Rights). The resultant net ACR in nameplate MW terms of the battery energy storage resource type is multiplied by 2.5 prior to applying the unit-specific of the battery energy storage resource type.

**Default Gross ACR Values (in 2022/2023 \$/MW-Day) used to determine MOPR Floor Offer Price of Cleared Capacity Resources with State Subsidy**

<b><u>Resource Type</u></b>	<b><u>Gross ACR (2022/2023 \$/MW-Day) (Nameplate)</u></b>
<u>Nuclear – Single Unit</u>	<u>\$697</u>
<u>Nuclear – Multi Unit</u>	<u>\$445</u>
<u>Coal</u>	<u>\$80</u>
<u>Combined Cycle</u>	<u>\$56</u>
<u>Combustion Turbine</u>	<u>\$50</u>
<u>Solar PV (Fixed and Tracking)</u>	<u>\$40</u>
<u>Onshore Wind</u>	<u>\$83</u>

**5.4.8.5 Unit-Specific Net EAS Determinations**

A unit-specific EAS calculation will be required for any Capacity Market Seller that seeks to obtain a unit-specific exception from the default MOPR Floor Offer Prices. The IMM will develop the default Net EAS value of each existing Generation Capacity Resource and for all Generation Capacity Resources that seek a unit-specific exception using a set of standard inputs based on the resource’s actual operating parameters, cost data, pricing points. The Projected EAS Dispatch or assumed output models, as applicable for the resource type, will be used as the standard model in developing the EAS values using these inputs.

The default Net EAS value of an existing generation resource shall be determined in accordance with the applicable resource type net energy and ancillary services revenue determination methodology set forth in Tariff, Attachment DD, section 5.14(h-2)(3)(A)(i) through (viii) and using the subject resource’s operating parameters as determined based on (a) offers submitted in the Day-ahead Energy Market and Real-time Energy Market over the calendar year preceding the time of the determination for the RPM Auction; (b) the resource-specific operating parameters approved, as applicable, in accordance with Operating Agreement, Schedule 1, section 6.6(b) and Operating Agreement, Schedule 2 (including any Fuel Costs, emissions costs, Maintenance Adders, and Operating Costs); (c) the resource’s EFORD; (d) Forward Hourly LMPs at the generation bus as determined in accordance with Tariff, Attachment DD, section 5.10(a)(v-1)(C)(6); and (e) the resource’s stated annual revenue requirement for reactive services; plus any unit-specific bilateral contract. In addition, the following resource type-specific parameters shall be considered; (f) for combustion turbine, combined cycle, and coal resource types: the installed capacity rating, ramp rate (which shall be equal to the maximum ramp rate included in the resource’s energy offers over the most recent previous calendar year preceding the determination for the RPM Auction), and the heat rate as determined as the resource’s average heat rate at full load as submitted to the IMM and PJM, where for combined cycle resources heat rates will be determined at base load and at peak load (e.g., without duct burners and with duct burners), as applicable; (g) for nuclear resource type: an average equivalent availability factor of all PJM nuclear resources to account for

refueling outages; ; (h) for solar and wind resource types: the resource's output profiles for the most recent three calendar years, as available; and (i) for battery storage resource type: the nameplate capacity rating (on a MW / MWh basis).

To the extent the resource has not achieved commercial operation, the operating parameters used in the simulation of the net energy and ancillary service revenues will be based on the manufacturer's specifications and/or from parameters used for other existing, comparable resources, as developed by the IMM and the Capacity Market Seller, and accepted by the Office of the Interconnection.

Adjustments to resource-specific operating parameters may be submitted to the IMM and PJM for review and consideration in the simulated dispatch with supporting documentation; however, Capacity Market Sellers may only seek a customized EAS value under the resource-specific exception process if they are also seeking a resource-specific Gross CONE or resource-specific ACR.

In the alternative, the Capacity Market Seller may provide their own estimate of Projected PJM Market Revenues to the IMM and PJM for review and approval. Such a request shall identify all revenue sources (exclusive of any Conditioned State Support or bilateral contracts that direct submission of an offer to lower RPM Auction clearing prices), including, without limitation, long-term power supply contracts, tolling agreements, or tariffs on file with state regulatory agencies, and shall demonstrate that such offsetting revenues are consistent, over a reasonable time period identified by the Capacity Market Seller, with the standards prescribed above. In making such demonstration, the Capacity Market Seller may rely upon revenues projected by well-defined, forward-looking dispatch models designed to generally follow the rules and processes of PJM's energy and ancillary services markets. Such models must utilize forward prices for energy, ancillary service and fuel in the PJM Region based on contractual evidence of an alternative fuel price or sourced from liquid forward markets (where available), and other publicly available data to develop the forward prices used in the estimate. Where forward fuel markets are not available, publicly available estimates of future fuel sources may be used. The model shall also contain estimates of variable operation and maintenance expenses, which may include Maintenance Adders, and emissions allowance prices. Documentation for net revenues also must include, as available and applicable, plant performance and capability information, including heat rate, start-up times and costs, forced outage rates, planned outage schedules, maintenance cycle, fuel costs and other variable operations and maintenance expenses, capacity factors, and ancillary service capabilities. Any evaluation of revenues should include, but would not be not limited to, consideration of Fuel Costs, Maintenance Adders and Operating Costs, as applicable, pursuant to Operating Agreement, Schedule 2.