

8/11/2025 Special MRC- ELCCTSF Page Turn, PJM Package C (MRC Main Motion)

Governing Document Changes Summary

Proposed Reform	Design Component	DC#	Governing Document Sections	Description
Weather Rotation Alignment	Weather Rotations	#15	Not Applicable. Will be covered in Manual updates with this implementation detail.	Fully align the weather days used to draw resource performance with the weather days used for each load scenario and weather rotation in the ELCC/RRS model to better capture the relationship between weather, load, and resource performance.
Generator Winter Ratings	Installed Capacity	#21, #22, #23	RAA Schedule 9.2, G	Specifying that the installed capacity of an Unlimited Resource and Variable Resource, as determined in accordance with the PJM Manuals, will include installed capacity for both the summer and winter of the Delivery Year. The installed capacity of a Limited Duration Resource or a Combination Resource will be the same between the summer and the winter.
	Accreditation UCAP Calculation	#19	RAA Schedule 9.2, D (1)(c)	Clarification of installed capacity utilized in Accredited UCAP calculation, with both summer and winter installed capacity defined beginning with the 2028/2029 Delivery Year.
	Allocation of Winter CIRs	#24	OATT VI, Subpart C, 230.2 OATT VII, Subpart E, 332 OATT VIII, Subpart E, 430	Sunset of status quo solicitation and study process for additional CIRs for the winter period of each delivery year. For the 2028/2029 Delivery Year and subsequent Delivery Years, additional CIRs for Unlimited and Variable Generation Capacity Resources effective for the winter period of each Delivery Year (defined as November through April) will be granted based on assessed winter generator deliverability as further described in the PJM Manuals.

Generator Winter Ratings (continued)	Maximum Modeled Output in ELCC Model	#6, #8	RAA Schedule 9.2, D (2) RAA Schedule 9.2, H	During the winter period (November through April) resource capability based on Winter ICAP, not to exceed assessed winter deliverability and granted Winter CIRs.
	Performance Modeling of Unlimited Resources in ELCC Model	#4	Not Applicable. Will be covered in Manual updates with this implementation detail.	Modeled outages and ambient derates will account for Winter ICAP during the winter period.
	Capability Testing and Verification Requirements	#25	Not Applicable. Will be covered in Manual updates with this implementation detail.	For Unlimited Resources, the Winter Net Capability Verification Test will be compared to committed Winter ICAP.
	Energy Must Offer Requirement	#26	Not Applicable. Will be covered in Manual updates with this implementation detail.	Based on the ICAP equivalent of committed UCAP (status quo), which under this proposal would utilize the applicable Accredited UCAP Factor to determine the committed ICAP equivalent of committed UCAP for each season.
	Capacity Market Offer MW Terms	#27	OATT Attachment DD 5.6.1 (b), (d), (d-1) & (e) OATT Attachment DD 5.6.6 (a) & (b)	To simplify RPM auction offers, given proposed use of seasonal ICAPs, offers would be submitted in UCAP terms (rather than having separate seasonal ICAP offers that need to be converted into annual UCAP).
	Resource Accredited UCAP Factor	#28	RAA Definitions & RAA Schedule 9.2 E OATT Attachment DD 7.1 (b)	Updated definition to clarify that Accredited UCAP Factor is the ratio of the Capacity Resource's Accredited UCAP to the Capacity Resource's applicable installed capacity Generation Resource Rating Test Failure Charge: The applicable Accredited UCAP Factor for such Delivery Year or season utilized in megawatt quantity shortfall calculation.

Generator Winter Ratings (continued)	Accredited UCAP & Auction Offers	#29, #30, #16	OATT Attachment 5.5A (d), (d)(i), & (d)(ii) OATT Attachment 5.6.1 (g) & (g)(i) OATT Attachment 5.14 (a) RAA Definitions RAA Schedule 9.2. B (1)(e) OATT Schedule 10A (c)	<p>To more fully recognize the resource adequacy value of generation resources that have incremental winter capability above summer CIRs, the annual Accredited UCAP of generators will not be capped at summer CIRs and will be eligible to offer into the capacity market (note that the underlying ELCC analysis will continue to respect the relevant seasonal CIRs and assessed deliverability levels of resources). The current seasonal products and pairing would be sunset under this proposal given the seasonal capability of resources would be fully recognized in their annual Accredited UCAP.</p> <p>Demand Resources with incremental summer-only capability will have that value recognized in their annual Accredited UCAP value that may be offered in the auction. To facilitate this, PJM will calculate an annual equivalent ELCC rating for summer-only Demand Resources.</p> <ul style="list-style-type: none"> Added ELCC Class definitions for Annual Demand Resources and Summer-Period Demand Resources Clarified Resource Committed Capacity in Performance Assessment Interval Expected Performance calculation.
Performance Weighting	Performance Modeling & Reflection of Resource Investments in Accreditation	#3, #12	RAA Schedule 9.2 D (2)(a) RAA Schedule 9.2 H	Establishes an approach to more quickly reflect demonstrated improved resource performance and changes in system operation in the risk and accreditation model without dismissing historical performance data. Added language for the use of a time series weighting approach such that more recent resource performance history is given a greater weight in the ELCC model than older performance.
Cleanup			RAA Definitions OATT Attachment DD, 5.14 (h-2)	<p>Updated 'Unforced Capacity' to better align with ELCC analysis</p> <p>Clarifications for use of Accredited UCAP Factor in Cleared MOPR Floor Offer Prices, and for use of Accredited UCAP in the unit-specific MOPR Floor Offer Price.</p>

RAA Redlines

ARTICLE 1 – DEFINITIONS

Accredited UCAP Factor:

"Accredited UCAP Factor" shall mean, through the 2024/2025 Delivery Year, one minus EFORD, and for 2025/2026 Delivery Year and subsequent Delivery Years, the ratio of the Capacity Resource's Accredited UCAP to the Capacity Resource's applicable installed capacity.

Annual Demand Resource Class:

"Annual Demand Resource Class" shall mean an ELCC Class consisting of Annual Demand Resources.

Summer-Period Demand Resource Class:

"Summer-Period Demand Resource Class" shall mean an ELCC Class consisting of Summer-Period Demand Resources.

Unforced Capacity:

"Unforced Capacity" shall mean ~~installed capacity rated at summer conditions~~ the capacity value as determined by the effective load carrying capability analysis for the Delivery Year, as further described in Schedule 9.2, that is not on average experiencing a forced outage or forced derating, calculated for each Capacity Resource on the 12-month period from October to September without regard to the ownership of or the contractual rights to the capacity of the unit.

SCHEDULE 9.2, EFFECTIVE LOAD CARRYING CAPABILITY ANALYSIS FOR THE 2025/2026 DELIVERY YEAR AND SUBSEQUENT DELIVERY YEARS

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B. ELCC Classes

(1) (a) The following are the ELCC Classes for Variable Resources:

- Tracking Solar Class
- Fixed-Tilt Solar Class
- Onshore Wind Class
- Offshore Wind Class
- Intermittent Landfill Gas Class
- Intermittent Hydropower Class
- Other Variable Resource Class

(b) The following are the types of ELCC Classes for Limited Duration Resources:

- The type of Capacity Storage Resource Classes
- The type of Other Limited Duration Resource Classes

Within those types, the following are the specific ELCC Classes for Limited Duration Resources:

- Capacity Storage Resource Class (4-Hour Duration)
- Capacity Storage Resource Class (6-Hour Duration)
- Capacity Storage Resource Class (8-Hour Duration)
- Capacity Storage Resource Class (10-Hour Duration)
- Other Limited Duration Class (4-Hour Duration)
- Other Limited Duration Class (6-Hour Duration)
- Other Limited Duration Class (8-Hour Duration)
- Other Limited Duration Class (10-Hour Duration)

(c) The following are the ELCC Classes for Combination Resources:

- The types of Hybrid Resource Classes, as further specified in subpart (2) below
- Hydropower With Non-Pumped Storage Class
- Complex Hybrid Class
- The types of Other Limited Duration Combination Classes, as further specified in subpart (3).

(d) The following are the ELCC Classes for Unlimited Resources

- Nuclear Class
- Coal Class
- Gas Combined Cycle Class
- Gas Combustion Turbine Class
- Gas Combined Cycle Dual Fuel Class
- Oil Fired Combustion Turbine Class (effective with the 2027/2028 Delivery Year)
- Gas Combustion Turbine Dual Fuel Class
- Diesel Utility Class
- Other Steam Class
- Waste to Energy Steam Class (effective with the 2027/2028 Delivery Year)
- Other Unlimited Resource Class

(e) The following are the ELCC Classes for Demand Resources

- Annual Demand Resource Class
- Summer-Period Demand Resource Class

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D. Calculation of Accredited UCAP and ELCC Resource Performance Adjustment

(1) (a) For Variable Resources and Limited Duration Resources, Accredited UCAP values shall be equal to the lesser of the resource's Capacity Interconnection Right or the product of:

- (i) the Effective Nameplate Capacity;
- (ii) the applicable ELCC Class Rating; and
- (iii) the ELCC Resource Performance Adjustment.

(b) For any resource in an ELCC Class for which no Class Rating has been calculated pursuant to C(2), the Accredited UCAP shall be based on a resource-specific effective load carrying capability analysis based on the resource's unique parameters.

(c) For Unlimited Resources that have an ELCC Class Rating determined pursuant to C(1), Accredited UCAP values shall be equal to the product of:

- (i) the installed capacity or, effective with the 2028/2029 Delivery Year, the summer installed capacity;
- (ii) the applicable ELCC Class Rating; and
- (iii) the ELCC Resource Performance Adjustment.

(d) For Demand Resources, Accredited UCAP values shall be equal to the product of:

- (i) the Nominated Value of the Demand Resource; and
- (ii) the applicable ELCC Class Rating.

(2) The ELCC Resource Performance Adjustment shall be calculated according to the following methods, as further detailed in the PJM Manuals:

(a) For a Variable Resource, a Limited Duration Resource, and an Unlimited Resource:

based on a metric consisting of the weighted average expected hourly output of the resource in the ELCC model during hours of loss of load risk where: (i) the weights correspond to the modeled probability of losing load in such hour and (ii) the expected hourly output is based on the resource's modeled output during the same hour on days since June 1st, 2012 identified as having similar weather from an RTO-perspective.

Beginning with the 2028/2029 Delivery Year, the above weighted average expected hourly output of the resource in the ELCC model will use a time series weighting approach such that more recent resource performance history is given a greater weight in the analysis than older performance, as detailed in the PJM Manuals.

For a given resource or component, the Performance Adjustment shall equal the ratio of such metric to the average (weighted by the Effective Nameplate Capacity) of such metrics for all units in the applicable Variable Resource ELCC Class or applicable Unlimited Resource ELCC Class.

In determining the ELCC Resource Performance Adjustment, the actual output of a Variable Resource shall be adjusted to reflect historical curtailments, and output in any hour shall be

capped at: (i) the greater of the Variable Resource’s Capacity Interconnection Rights, or the transitional system capability as limited by the transitional resource MW ceiling as defined in the PJM Manuals, awarded for the applicable Delivery Year, for hours in the months of June through October and the following May of the Delivery Year, and (ii) the Variable Resource’s assessed deliverability, as defined in the PJM Manuals, for hours in the months of November through April of the Delivery Year.

Through the 2027/2028 Delivery Year, the output of an Unlimited Resource in any hour shall be capped at the greater of the resource’s Capacity Interconnection Rights, or the transitional system capability as limited by the transitional resource MW ceiling as defined in the PJM Manuals, awarded for the applicable Delivery Year.

Beginning with the 2028/2029 Delivery Year, the output of an Unlimited Resource in any hour shall be capped at: (i) the greater of the resource’s Capacity Interconnection Rights, or the transitional system capability as limited by the transitional resource MW ceiling as defined in the PJM Manuals, awarded for the applicable Delivery Year, for hours in the months of June through October and the following May of the Delivery Year, and (ii) the value in (i) plus the incremental Winter CIRs awarded for the Delivery Year for hours in the months of November through April of the Delivery Year.

E. Calculation of Accredited UCAP Factor

For Generation Capacity Resources, PJM shall determine an Accredited UCAP Factor, which is the ratio of the resource’s Accredited UCAP to the resource’s applicable installed capacity.

G. Installed Capacity of ELCC Resources

Rules and procedures for technically determining and demonstrating the installed capacity of ELCC Resources shall be developed by the Office of the Interconnection and maintained in the PJM Manuals. The installed capacity of a Limited Duration Resource is based on the sustained level of output that the unit can provide and maintain over a continuous period, whereby the duration of that period matches the characteristic duration of the corresponding ELCC Class, with consideration given to ambient conditions expected to exist at the time of PJM system peak load, as described in the PJM Manuals. The installed capacity of a Combination Resource (other than Hydropower With Non-Pumped Storage) is based on the lesser of the Maximum Facility Output or the sum of the equivalent Effective Nameplate Capacity values

of the resource’s constituent components considered on a stand-alone basis. The installed capacity of a Limited Duration Resource or a Combination Resource will be the same between the summer and the winter. The installed capacity of an Unlimited Resource and Variable Resource shall be determined in accordance with the PJM Manuals, which beginning with the 2028/2029 Delivery Year, will include installed capacity for the summer season, June through October and the following May of the Delivery Year, and the winter season, November through April of the Delivery Year. The installed capacity of Demand Resources, for purposes of the ELCC analysis, is based on the forecasted deployment level in the PJM Load Forecast.

H. Details of the Effective Load Carrying Capability Methodology

The effective load carrying capability analysis shall compare expected hourly load levels (based on historical weather) with the expected hourly output of the expected future resource mix in order to identify the relative marginal resource adequacy value of each individual ELCC Class compared to an Unlimited Resource with no outages. In performing this analysis, the model inputs shall be scaled to meet the annual reliability criteria of the Office of the Interconnection.

The effective load carrying capability analysis shall compare hourly values for: (i) expected load based on historical weather; (ii) expected Variable Resource output; (iii) expected output of Limited Duration Resources and of Combination Resources as described below; (iv) expected Unlimited Resource output; and (v) expected Demand Resource output. These expected quantities are based on forecasted load and actual and putative values for Variable Resource output (standalone or as a component of Combination Resources) and Unlimited Resource output after June 1, 2012 (inclusive) through the most recent Delivery Year for which complete data exist. For resources that have not existed each year since June 1, 2012, putative output is an estimate of the hourly output that resource would have produced in a historical hour if that resource had existed in that hour. For Variable Resources, this putative output estimate is developed based on historical weather data consistent with the particular site conditions for each such resource in accordance with the PJM Manuals; for Unlimited Resources, the putative output is developed based on actual performance of similar units in accordance with the PJM Manuals.

Variable Resource actual output shall be adjusted in the ELCC analysis to reflect historical curtailments, and output shall be capped in any hour at: (i) the greater of the Variable Resource’s Capacity Interconnection Rights, or the transitional system capability as limited by the transitional resource MW ceiling as defined in the PJM Manuals, awarded for the applicable Delivery Year, during the months of June through October and the following May of the Delivery Year, and (ii) the Variable Resource’s

assessed deliverability, as defined in the PJM Manuals, during the months of November through April of the Delivery Year.

Through the 2027/2028 Delivery Year, the output of Unlimited Resources in the ELCC analysis shall not exceed the greater of the Unlimited Resource's Capacity Interconnection Rights, or the transitional system capability as limited by the transitional resource MW ceiling as defined in the PJM Manuals, awarded for the applicable Delivery Year.

Beginning with the 2028/2029 Delivery Year, the output of an Unlimited Resource in any hour in the ELCC analysis shall be capped at: (i) the greater of the resource's Capacity Interconnection Rights, or the transitional system capability as limited by the transitional resource MW ceiling as defined in the PJM Manuals, awarded for the applicable Delivery Year, for hours in the months of June through October and the following May of the Delivery Year, and (ii) the value in (i) plus the incremental Winter CIRs awarded for the Delivery Year for hours in the months of November through April of the Delivery Year.

Beginning with the 2028/2029 Delivery Year, the expected hourly output of Variable Resources and Unlimited Resources in the ELCC model will use a time series weighting approach such that more recent resource performance history is assigned a greater weight in the analysis than older performance (i.e. more recent performance will be sampled more frequently in the analysis than older performance), as detailed in the PJM Manuals.

The effective load carrying capability analysis shall simulate performance of Demand Resources, and shall simulate the output of Limited Duration Resources and Combination Resources based on their Office of the Interconnection-validated parameters, including the putative output of the Variable Resource component of Combination Resources, as described above.

The quantity of deployed resources studied in the analysis shall be based on resource deployment forecasts and, where applicable, on available information based on Sell Offers submitted in RPM Auctions or Fixed Resource Requirement plans for the applicable Delivery Year, and, where applicable, information provided to the Office of the Interconnection regarding intent to offer in an RPM Auction, pursuant to the requirements in the Tariff, Attachment DD, section 5.5.

The model inputs, specifically the load scenarios, shall be scaled to meet the annual reliability criteria of the Office of the Interconnection. The resulting expected unserved energy constitutes the Portfolio EUE for the Delivery Year. Energy Resources are not included in the effective load carrying capability analysis. Generating units that are expected to only offer or otherwise provide a portion of their Accredited UCAP for that Delivery Year are represented in the analysis in proportion to the expected quantity offered or delivered divided by the Accredited UCAP.

OATT Redlines

VI, Subpart C - Rights Related to Customer Funded Upgrades, 230.2 Receipt of Capacity Interconnection Rights

Generation accredited under the Reliability Assurance Agreement Among Load Serving Entities in the PJM Region as a Generation Capacity Resource prior to the original effective date of Tariff, Part IV shall have Capacity Interconnection Rights commensurate with the size in megawatts of the accredited generation. When a Generation Interconnection Customer's generation is accredited as deliverable through the applicable procedures in Tariff, Part VI and Tariff, Part VI, the Generation Interconnection Customer also shall receive Capacity Interconnection Rights commensurate with the size in megawatts of the generation as identified in the Interconnection Service Agreement. Through the 2027/2028 Delivery Year, Any Generation Owner of an Intermittent Resource or Environmentally Limited Resource which has been accredited as deliverable for additional Capacity Interconnection Rights for the winter period (defined as November through April of a Delivery Year) under the Tariff, Preamble, Part IV, shall receive such Capacity Interconnection Rights as further documented in section 2.0 of the Specifications of the Interconnection Service Agreement of such Generation Owner for the year specified.

For the 2028/2029 Delivery Year and subsequent Delivery Years, additional Capacity Interconnection Rights for Generation Capacity Resources effective for the winter period of each Delivery Year (defined as November through April) will be awarded for those resources that have been studied to be deliverable for incremental capability above the resource's Capacity Interconnection Rights, or the transitional system capability as limited by the transitional resource MW ceiling awarded for the applicable Delivery Year.

- For the 2028/2029 Delivery Year, PJM shall determine the quantity of additional Capacity Interconnection Rights awarded to Generation Capacity Resources for the winter period based on a transitional study of available transmission system capability for the winter period of the Delivery Year. The allocation of available transmission system capability shall consider transmission constraints identified in the study, as well as the resource's electrical proximity and MW contribution to such transmission constraints, as further detailed in the PJM Manuals.
- For 2029/2030 Delivery Year and subsequent Delivery Years, PJM shall determine the quantity of additional Capacity Interconnection Rights awarded to Generation Capacity Resources for the winter period of each Delivery Year based on the level of assessed winter deliverability consistent with Regional Transmission Expansion Plan and interconnection study processes, as further detailed in the PJM Manuals.

Pursuant to applicable terms of RAA, Schedule 10, a Transmission Interconnection Customer may combine Incremental Deliverability Rights associated with Merchant Transmission Facilities with generation capacity that is not otherwise accredited as a Generation Capacity Resource for the purposes of obtaining accreditation of such generation as a Generation Capacity Resource and associated Capacity Interconnection Rights.

Part VII, Subpart E, Section 332, Winter Capacity Interconnection Rights

By August 31 of each calendar year prior to the Base Residual Auction for the 2027/2028 Delivery Year, PJM shall solicit requests from Generation Owners of Intermittent Resources and Environmentally Limited Resources which seek to obtain additional Capacity Interconnection Rights related to the winter period (defined as November through April of a Delivery Year) for the purposes of aggregation under the Tariff, Attachment DD. Such additional Capacity Interconnection Rights would be for a one-year period as specified by PJM in the solicitation. Responses to such solicitation must be submitted by such interested Generation Owners by October 31 prior to the upcoming Base Residual Auction. Such requests shall be studied for deliverability similar to any Generation Project Developer that seeks to submit a New Service Request; however, such requests shall not be required to submit a New Service Request. PJM shall study such requests in a manner so as to prevent infringement on available system capabilities of any resource which is already in service, or which has an executed service agreement from Tariff, Part IX, or that has a valid New Service Request in a Cycle.

For the 2028/2029 Delivery Year and subsequent Delivery Years, additional Capacity Interconnection Rights for Generation Capacity Resources effective for the winter period of each Delivery Year (defined as November through April) will be awarded for those resources that have been studied to be deliverable for incremental capability above the resource's Capacity Interconnection Rights, or the transitional system capability as limited by the transitional resource MW ceiling awarded for the applicable Delivery Year.

- For the 2028/2029 Delivery Year, PJM shall determine the quantity of additional Capacity Interconnection Rights awarded to Generation Capacity Resources for the winter period based on a transitional study of available transmission system capability for the winter period of the Delivery Year. The allocation of available transmission system capability shall consider transmission constraints identified in the study, as well as the resource's electrical proximity and MW contribution to such transmission constraints, as further detailed in the PJM Manuals.
- For 2029/2030 Delivery Year and subsequent Delivery Years, PJM shall determine the quantity of additional Capacity Interconnection Rights awarded to Generation Capacity Resources for the winter period of each Delivery Year based on the level of assessed winter deliverability consistent with Regional Transmission Expansion Plan and interconnection study processes, as further detailed in the PJM Manuals.

Part VIII, Subpart E, Section 430, Winter Capacity Interconnection Rights

Through the 2027/2028 Delivery Year, By August 31 of each calendar year, PJM shall solicit requests from Generation Owners of Intermittent Resources and Environmentally Limited Resources which seek to obtain additional Capacity Interconnection Rights related to the winter period (defined as November through April of a Delivery Year) for the purposes of aggregation under the Tariff, Attachment DD. Such additional Capacity Interconnection Rights would be for a one-year period as specified by PJM in the solicitation. Responses to such solicitation must be submitted by such interested Generation Owners by October 31 prior to the upcoming Base Residual Auction. Such requests shall be studied for deliverability similar to any Generation Project Developer that seeks to submit a New Service Request; however, such requests shall not be required to submit a New Service Request. PJM shall study such requests in a manner so as to prevent infringement on available system capabilities of any resource which is already in service, or which has an executed service agreement from Tariff, Part IX, or that has a valid New Service Request in a Cycle.

For the 2028/2029 Delivery Year and subsequent Delivery Years, additional Capacity Interconnection Rights for Generation Capacity Resources effective for the winter period of each Delivery Year (defined as November through April) will be awarded for those resources that have been studied to be deliverable for incremental capability above the resource's Capacity Interconnection Rights, or the transitional system capability as limited by the transitional resource MW ceiling awarded for the applicable Delivery Year.

- For the 2028/2029 Delivery Year, PJM shall determine the quantity of additional Capacity Interconnection Rights awarded to Generation Capacity Resources for the winter period based on a transitional study of available transmission system capability for the winter period of the Delivery Year. The allocation of available transmission system capability shall consider transmission constraints identified in the study, as well as the resource's electrical proximity and MW contribution to such transmission constraints, as further detailed in the PJM Manuals.
- For 2029/2030 Delivery Year and subsequent Delivery Years, PJM shall determine the quantity of additional Capacity Interconnection Rights awarded to Generation Capacity Resources for the winter period of each Delivery Year based on the level of assessed winter deliverability consistent with Regional Transmission Expansion Plan and interconnection study processes, as further detailed in the PJM Manuals.

Attachment DD Reliability Pricing Model

5.5A Capacity Resource Types

(d) Seasonal Capacity Performance Resource

For the 2020/2021 Delivery Year ~~through the 2027/2028 Delivery Year and subsequent Delivery Years~~, a Seasonal Capacity Performance Resource shall mean a Summer-Period Capacity Performance Resource or Winter-Period Capacity Performance Resource, as defined below.

For the 2028/2029 Delivery Year and subsequent Delivery Years, there will be no Seasonal Capacity Performance Resources.

i) Summer-Period Capacity Performance Resource

For the 2020/2021 Delivery Year ~~through the 2027/2028 Delivery Year and subsequent Delivery Years~~, the following types of Capacity Resources are eligible to submit a Sell Offer as a Summer-Period Capacity Performance Resource: Summer Period Demand Resource, Summer-Period Energy Efficiency Resource, and Capacity Storage Resource, Intermittent Resource, or Environmentally-Limited Resource that has an average expected energy output during summer peak-hour periods consistently and measurably greater than its average expected energy output during winter peak hour periods. To the extent such resource clears an RPM Auction or is otherwise committed as a Summer-Period Capacity Performance Resource, it is obligated to deliver energy as scheduled and/or dispatched by the Office of Interconnection during Performance Assessment Intervals occurring in the calendar months of June through October and the following May of the Delivery Year, and must satisfy the requirements of a Capacity Performance Resource for such period of time. As further detailed in Tariff, Attachment DD, section 10A, Summer-Period Capacity Performance Resources that fail to meet this obligation will be subject to a Non-Performance Charge, unless excused pursuant to Tariff, Attachment DD, section 10A(d).

ii) Winter-Period Capacity Performance Resource

For the 2020/2021 Delivery Year ~~through the 2027/2028 Delivery Year and subsequent Delivery Years~~, the following types of Capacity Resources are eligible to submit a Sell Offer as a Winter-Period Capacity Performance Resource: Capacity Storage Resource, Intermittent Resource, and Environmentally-Limited Resource that has an average expected energy output during winter peak-hour periods consistently and measurably greater than its average expected energy output during summer peak-hour periods. To the extent such resource clears an RPM Auction or is otherwise committed as a Winter-Period Capacity Performance Resource, it is obligated to deliver energy as scheduled and/or dispatched by the Office of Interconnection during Performance Assessment Intervals occurring in the calendar months of November through April of the Delivery Year, and must satisfy the requirements of a Capacity Performance Resource for such period of time. As further detailed in Tariff, Attachment DD, section 10A, Winter-Period Capacity Performance Resources that fail to meet this obligation will be subject to a Non-Performance Charge, unless excused pursuant to Tariff, Attachment DD, section 10A(d).

5.6 Sell Offers

Sell Offers shall be submitted or withdrawn via the internet site designated by the Office of the Interconnection, under the procedures and time schedule set forth in the PJM Manuals.

5.6.1 Specifications

A Sell Offer shall state quantities in increments of 0.1 megawatts and shall specify, as appropriate:

- a) Identification of the Generation Capacity Resource, Demand Resource, Capacity Storage Resource or Energy Efficiency Resource on which such Sell Offer is based;
- b) Minimum and maximum megawatt quantity of ~~installed~~ capacity that the Capacity Market Seller is willing to offer ~~(notwithstanding such specification, the product offered shall be Unforced Capacity)~~, or designate as Self-Supply, from a Generation Capacity Resource;
 - i) Through the 2027/2028 Delivery Year, the specified megawatt quantity shall be represented in installed capacity terms (notwithstanding such specification, the product offered shall be Unforced Capacity). For the 2028/2029 Delivery Year and subsequent Delivery Year, the specified megawatt quantity shall be represented in Unforced Capacity terms.
 - ii) Price, in dollars and cents per megawatt-day, that will be accepted by the Capacity Market Seller for the megawatt quantity of Unforced Capacity offered from such Generation Capacity Resource.
 - iii) The Sell Offer may take the form of offer segments with varying price-quantity pairs for varying output levels from the underlying resource, but may not take the form of an offer curve with nonzero slope.
- c) EFORd of each Generation Capacity Resource offered through the 2024/2025 Delivery Year.
 - i) If a Capacity Market Seller is offering such resource in a Base Residual Auction, First Incremental Auction, Second Incremental Auction, or Conditional Incremental Auction occurring before the Third Incremental Auction, the Capacity Market Seller shall specify the EFORd to apply to the offer.
 - ii) If a Capacity Market Seller is committing the resource as Self-Supply, the Capacity Market Seller shall specify the EFORd to apply to the commitment.
 - iii) The EFORd applied to the Third Incremental Auction will be the final EFORd established by the Office of the Interconnection six (6) months prior to the Delivery Year, based on the actual EFORd in the PJM Region during the 12-month period ending September 30 that last precedes such Delivery Year.
- d) Through the 2027/2028 Delivery Year, ~~the~~ the Nominated Demand Resource Value for each Demand Resource offered and the Nominated Energy Efficiency Value for each Energy Efficiency Resource offered.
 - i) The Office of the Interconnection shall convert Nominated Energy Efficiency Value to an Unforced Capacity basis by multiplying such value by the Forecast Pool Requirement.

ii) The Office of the Interconnection shall convert the nominated Demand Resource value to a UCAP basis by multiplying such value by ~~the Forecast Pool Requirement through the 2024/2025 Delivery Year, and starting with the 2025/2026 Delivery Year and for subsequent Delivery Years,~~ the applicable ELCC Class Rating.

iii) Demand Resources and Energy Efficiency Resources shall specify the LDA in which the resource is located, including the location of such resource within any Zone that includes more than one LDA as identified on RAA, Schedule 10.1.

~~d-1) For the 2028/2029 Delivery Year and subsequent Delivery Years, the Unforced Capacity value for each Demand Resource offered;~~

~~i) Demand Resources shall specify the LDA in which the resource is located, including the location of such resource within any Zone that includes more than one LDA as identified on RAA, Schedule 10.1.~~

e) Accredited UCAP Factor for Generation Capacity Resources beginning with the 2025/2026 Delivery Year ~~through the 2027/2028 Delivery Year and subsequent Delivery Years.~~

i) The Accredited UCAP Factor shall be the value established by the Office of the Interconnection in accordance with RAA, Schedule 9.2, prior to the applicable RPM Auction. Such Accredited UCAP Factor shall be multiplied by the ICAP offered to convert the ICAP offered into the UCAP offered.

ii) If a Capacity Market Seller is committing the resource as Self-Supply, the Accredited UCAP Factor determined by the Office of the Interconnection shall apply to such commitment.

f) For a Qualifying Transmission Upgrade, the Sell Offer shall identify such upgrade, and the Office of the Interconnection shall determine and certify the increase in CETL provided by such upgrade. The Capacity Market Seller may offer the upgrade with an associated increase in CETL to an LDA in accordance with such certification, including an offer price that will be accepted by the Capacity Market Seller, stated in dollars and cents per megawatt-day as a price difference between a Capacity Resource located outside such an LDA and a Capacity Resource located inside such LDA; and the increase in CETL into such LDA to be provided by such Qualifying Transmission Upgrade, as certified by the Office of the Interconnection.

g) ~~Through the 2027/2028 Delivery Year, A~~ Capacity Market Seller that owns or controls one or more Capacity Storage Resources, Intermittent Resources, Demand Resources, or Energy Efficiency Resources may submit a Sell Offer as a Capacity Performance Resource in a MW quantity consistent with their average expected output during peak-hour periods, not to exceed the Accredited UCAP of such resource, as applicable. Alternatively, a Capacity Market Seller that owns or controls one or more Capacity Storage Resources, Intermittent Resources, Demand Resources, Energy Efficiency Resources, or Environmentally-Limited Resources may submit a

Sell Offer which represents the aggregated Unforced Capacity value of such resources, where such Sell Offer shall be considered to be located in the smallest modeled LDA common to the aggregated resources. Such aggregated resources shall be owned by or under contract to the Capacity Market Seller, including all such resources obtained through bilateral contract and reported to the Office of the Interconnection in accordance with the Office of the Interconnection's rules related to its Capacity Exchange tools. If any of the commercially aggregated resources in such Sell Offer are subject to the Minimum Floor Offer Price pursuant to Tariff, Attachment DD, section 5.14(h-2), the Capacity Market Seller that owns or controls such resources may submit a Sell Offer with a Minimum Floor Offer Price of no lower than the time and MW-weighted average of the applicable MOPR Floor Offer Prices (zero if not applicable) of the aggregated resources in such Sell Offer.

(i) ~~For the 2020/2021 Delivery Year Through the 2027/2028 Delivery Year and subsequent Delivery Years~~, a Capacity Market Seller that owns or controls a resource that qualifies as a Summer-Period Capacity Performance Resource may submit a Sell Offer as a Capacity Performance Resource in a MW quantity consistent with the average expected output of such resource during peak-hour periods, and may submit a separate Sell Offer as a Summer-Period Capacity Performance Resource in a MW quantity consistent with the average expected output of such resource during summer peak-hour periods, provided the total Sell Offer MW quantity submitted as both a Capacity Performance Resource and a Summer-Period Capacity Performance Resource does not exceed the Unforced Capacity value of the resource. ~~For the 2020/2021 Delivery Year and subsequent Delivery Years~~ Through the 2027/2028 Delivery Year, a Capacity Market Seller that owns or controls a resource that qualifies as a Winter-Period Capacity Performance Resource may submit a Sell Offer as a Capacity Performance Resource in a MW quantity consistent with the average expected output of such resource during peak-hour periods, and may submit a separate Sell Offer as a Winter-Period Capacity Performance Resource in a MW quantity consistent with the average expected output of such resource during winter peak-hour periods, provided the total Sell Offer MW quantity submitted as both a Capacity Performance Resource and a Winter-Period Capacity Performance Resource does not exceed the Unforced Capacity value of the resource. Each segment of a Seasonal Capacity Performance Resource Sell Offer must be submitted as a flexible Sell Offer segment with the minimum MW quantity offered set to zero.

For the 2028/2029 Delivery Year and subsequent Delivery Years, there will be no Summer-Period or Winter-Period Capacity Performance Resources.

...

5.6.6 Availability of Capacity Resources for Sale

(a) The Office of the Interconnection shall determine the quantity of megawatts of available installed capacity and corresponding Accredited UCAP that each Capacity Market Seller must offer in any RPM Auction pursuant to Tariff, Attachment DD, section 6.6, through verification of the availability of megawatts of installed capacity from: (i) all Generation Capacity Resources owned by or under contract

to the Capacity Market Seller, including all Generation Capacity Resources obtained through bilateral contract; (ii) the results of prior Reliability Pricing Model Auctions, if any, for such Delivery Year (including consideration of any restriction imposed as a consequence of a prior failure to offer); and (iii) such other information as may be available to the Office of the Interconnection. The Office of the Interconnection shall reject Sell Offers or portions of Sell Offers for Capacity Resources in excess of the quantity of installed capacity from such Capacity Market Seller's Capacity Resource that it determines to be available for sale.

(b) The Office of the Interconnection shall determine the quantity of installed capacity and corresponding Accredited UCAP available for sale in a Base Residual Auction or Incremental Auction as of the beginning of the period during which Buy Bids and Sell Offers are accepted for such auction, as applicable, in accordance with the time schedule set forth in the PJM Manuals. An external sale of capacity shall not be reflected in the determination of available installed capacity and corresponding Accredited UCAP unless the associated unit-specific bilateral transaction is approved, the designation of such resource (or portion thereof) as a network resource for the external load is demonstrated to the Office of the Interconnection, or equivalent evidence of a firm external sale is provided prior to the deadline established therefor. The determination of available installed capacity and corresponding Accredited UCAP shall also take into account, as they apply in proportion to the share of each resource owned or controlled by a Capacity Market Seller, any approved capacity modifications, and existing capacity commitments established in a prior RPM Auction, an FRR Capacity Plan, Locational UCAP transactions and/or replacement capacity transactions under this Tariff, Attachment DD. To enable the Office of the Interconnection to make this determination, no bilateral transactions for Capacity Resources applicable to the period covered by an auction will be processed from the beginning of the period for submission of Sell Offers and Buy Bids, as appropriate, for that auction until completion of the clearing determination for such auction. Processing of such bilateral transactions will reconvene once clearing for that auction is completed. A Generation Capacity Resource located in the PJM Region shall not be removed from Capacity Resource status to the extent the resource is committed to service of PJM loads as a result of an RPM Auction, FRR Capacity Plan, Locational UCAP transaction and/or by designation as a replacement resource under this Tariff, Attachment DD.

5.14 Clearing Prices and Charges

a) Capacity Resource Clearing Prices

For each Base Residual Auction and Incremental Auction, the Office of the Interconnection shall calculate a clearing price to be paid for each megawatt-day of Unforced Capacity that clears in such auction. The Capacity Resource Clearing Price for each LDA will be the marginal value of system capacity for the PJM Region, without considering locational constraints, adjusted as necessary by any applicable Locational Price Adders, Annual Resource Price Adders, Extended Summer Resource Price Adders, Limited Resource Price Decrements, Sub-Annual Resource Price Decrements, Base Capacity Demand Resource Price Decrements, and Base Capacity Resource Price Decrements, all as determined by the Office of the Interconnection based on the optimization algorithm. If a Capacity Resource is located in more than one Locational Deliverability Area, it shall be paid the highest Locational Price Adder in any applicable LDA in which the Sell Offer for such Capacity Resource cleared. The Annual Resource Price

Adder is applicable for Annual Resources only. The Extended Summer Resource Price Adder is applicable for Annual Resources and Extended Summer Demand Resources.

Through the 2027/2028 Delivery Year, the Locational Price Adder applicable to each cleared Seasonal Capacity Performance Resource is determined during the post-processing of the RPM Auction results consistent with the manner in which the auction clearing algorithm recognizes the contribution of Seasonal Capacity Performance Resource Sell Offers in satisfying an LDA's reliability requirement. For each LDA with a positive Locational Price Adder with respect to the immediate higher level LDA, starting with the lowest level constrained LDAs and moving up, PJM determines the quantity of equally matched Summer-Period Capacity Performance Resources and Winter-Period Capacity Performance Resources located and cleared within that LDA. Up to this quantity, the cleared Summer-Period Capacity Performance Resources and Winter-Period Capacity Performance Resources with the lowest Sell Offer prices will be compensated using the highest Locational Price Adder applicable to such LDA; and any remaining Seasonal Capacity Performance Resources cleared within the LDA are effectively moved to the next higher level constrained LDA, where they are considered in a similar manner for compensation.

...

h-2) Minimum Offer Price Rule Effective with the 2023/2024 Delivery Year

...

(3) Minimum Offer Price Rule. Any Sell Offer for a Generation Capacity Resource that is subject to the provisions of the Minimum Offer Price Rule pursuant to Tariff, Attachment DD, section 5.14(h-2)(2) shall have an offer price no lower than the applicable MOPR Floor Offer Price, unless the applicable MOPR Floor Offer Price is higher than the applicable Market Seller Offer Cap, in which circumstance the Capacity Market Seller, to participate in an RPM Auction, must request a unit-specific value determined in accordance with the unit-specific MOPR Floor Offer Price process, and the unit-specific MOPR Floor Offer Price shall establish the offer level for such resource.

...

(B) Cleared MOPR Floor Offer Prices.

...

The default gross Avoidable Cost Rate values in the table above are expressed in dollars per MW-day in terms of nameplate megawatts. Through the 2024/2025 Delivery Year, for purposes of submitting a Sell Offer, the default Avoidable Cost Rate values must be net of estimated net energy and ancillary service revenues, and then the difference is ultimately converted to Unforced Capacity ("UCAP") MW-day, where the UCAP MW-day value will be determined based 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 resource-specific EFORD for all other generation resource types. Effective for the 2025/2026 Delivery Year and subsequent Delivery Years, for purposes of submitting a Sell Offer, the default Avoidable Cost Rate values must be net of estimated net energy and ancillary service revenues, and then the difference is ultimately converted to Unforced Capacity ("UCAP") MW-day, based on the resource's applicable Accredited UCAP Factor. The resulting default Cleared MOPR Floor

Offer price in UCAP/MW-day terms shall be applied to each MW offered for the Capacity Resource regardless of actual Sell Offer quantity and regardless of whether the Sell Offer is for a Seasonal Capacity Performance Resource.

...

(4) Unit-Specific Exception. A Capacity Market Seller intending to submit a Sell Offer in any RPM Auction for a Generation Capacity Resource that is subject to the provisions of the Minimum Offer Price Rule below the applicable default MOPR Floor Offer Price may, at its election, submit a request for a unit-specific exception for such Capacity Resource. A Capacity Market Seller intending to submit a Sell Offer in any RPM Auction for a Generation Capacity Resource that is under a fact-specific review for Buyer-Side Market Power pursuant to Tariff, Attachment DD, section 5.14(h-2)(2)(B)(ii), and where the offer is below the applicable default MOPR Floor Offer Price may, at its election, submit a request for a unit-specific exception for such Generation Capacity Resource. A Sell Offer below the default MOPR Floor Offer Price, but no lower than the unit-specific MOPR Floor Offer Price, shall be permitted if the Capacity Market Seller obtains approval from the Office of the Interconnection or the Commission, prior to the RPM Auction in which it seeks to submit the Sell Offer. The unit-specific MOPR Floor Offer Price determined under this provision shall be based on the unit-specific Accredited UCAP value for battery energy storage resource types and for solar and wind generation resource types (appropriately time-weighted for any winter Capacity Interconnection Rights) or on the unit-specific ~~EFORD~~ Accredited UCAP value for all other generation resource types, and shall be applied to each MW offered by the resource regardless of actual Sell Offer quantity and regardless of whether the Sell Offer is for a Seasonal Capacity Performance Resource. Such Sell Offer is permissible because it is consistent with the competitive, cost-based, fixed, net cost of the resource. All supporting data must be provided for all requests. The following requirements shall apply to requests for such determinations:

7. GENERATION RESOURCE RATING TEST FAILURE CHARGE

7.1 Generation Resource Rating Test Failure Charges

...

b) Generation Resource Rating Test Failure Charge

Through the 2024/2025 Delivery Year, the Generation Resource Rating Test Failure Charge shall equal the Daily Deficiency Rate multiplied by the following megawatt quantity, converted to an Unforced Capacity basis using the Generation Capacity Resource's EFORD for the twelve months ending the September 30 last preceding the Delivery Year: (i) the annual average of the installed capacity committed for each day of such Delivery Year as a result of all cleared Sell Offers in all RPM Auctions for such Delivery Year relying on such resource, reduction in any such commitment for such resource to the extent and for the time period of any replacement capacity committed in lieu of such resource, and increase in any such commitment for such resource to the extent and for the time period that such resource is committed as replacement capacity for any other resource, minus (ii) the highest installed capacity rating determined for such resource in any test during the relevant testing period.

Effective with the 2025/2026 Delivery Year, the Generation Resource Rating Test Failure Charge shall be determined for each day of the Delivery Year and shall be equal to the Daily Deficiency Rate multiplied by the following megawatt quantity shortfall, converted to an Unforced Capacity basis using the Generation Capacity Resource's final applicable Accredited UCAP Factor for such Delivery Year or season: (i) the installed capacity committed for such day of the Delivery Year (adjusted for any replacement capacity), minus (ii) the highest installed capacity rating determined for such resource in any test during the relevant testing period.

10A. CHARGES FOR NON-PERFORMANCE AND CREDITS FOR PERFORMANCE

...

(c) For each Performance Assessment Interval, the Office of the Interconnection shall determine whether, and the extent to which, the actual performance of each Capacity Resource and Locational UCAP has fallen short of the performance expected of such committed Capacity Resource, and the magnitude of any such shortfall, based on the following formula:

Performance Shortfall = Expected Performance - Actual Performance

Where the result of such formula is a positive number and where:

Expected Performance =

for Generation Capacity Resources (including external Generation Capacity Resources for any Performance Assessment Interval for which performance by such external resource would have helped resolve a declared Emergency Action; provided, however, that for any Delivery Year up to and including the 2019/2020 Delivery Year, performance of external Generation Capacity Resources shall be assessed only during Performance Assessment Hours for Emergency Actions declared for the entire PJM Region) and Capacity Storage Resources: [(Resource Committed Capacity * the Balancing Ratio)];

where

Resource Committed Capacity = the total megawatts of Unforced Capacity of the Capacity Resource committed by such Capacity Market Seller or Locational UCAP Seller; and

The Balancing Ratio = (All Actual Generation Performance, Storage Resource Performance, Net Energy Imports, Price Responsive Demand Bonus Performance effective with the 2022/2023 Delivery Year, and Demand Response Bonus Performance) / (All Committed Generation and Storage Capacity); provided, however, that Net Energy Imports shall be included in the calculation of the Balancing Ratio only for any Performance Assessment Interval for which performance by any external Generation Capacity Resource would have helped resolve the Emergency Action that was the subject to the Performance Assessment Hour; and provided further that for any Delivery Year up to and including the 2019/2020 Delivery Year, Net Energy Imports shall be included in the calculation of the Balancing Ratio only for any Performance Assessment Hour for which the Emergency Action was declared for the entire PJM Region; and provided further that the Balancing Ratio shall not exceed a value of 1.0.

for purposes of which

All Committed Generation and Storage Capacity = the total megawatts of Unforced Capacity of all Generation Capacity Resources (including external Generation Capacity Resources for any Performance Assessment Interval for which performance by such external resource would have helped resolve the declared Emergency Action that was the subject to the Performance Assessment Hour; provided, however, that for any Delivery Year up to and including the 2019/2020 Delivery Year, performance of external Generation Capacity Resources shall be assessed only during Performance Assessment Hours for Emergency Actions declared for the entire PJM Region) and all Capacity Storage Resources committed by all Capacity Market Sellers, FRR Entities, Locational UCAP Sellers;

All Actual Generation Performance and Storage Resource Performance = the total amount of Actual Performance for all generation resources (including external Generation Capacity Resources for any Performance Assessment Interval for which performance by such external resource would have helped resolve the declared Emergency Action that was the subject to the Performance Assessment Hour; provided, however, that for any Delivery Year up to and including the 2019/2020 Delivery Year, performance of external Generation Capacity Resources shall be assessed only during Performance Assessment Hours for Emergency Actions declared for the entire PJM Region) and storage resources during the interval;

Net Energy Imports = the sum of interchange transactions importing energy into PJM (not including those associated with external Generation Capacity Resources and therefore included in All Actual Generation Performance) minus the sum of interchange transactions exporting energy out of PJM, but not less than zero;

Demand Response Bonus Performance = the sum of Bonus performance provided by Demand Response resources as calculated in (g) below;

Price Responsive Demand Bonus Performance = the sum of Bonus performance provided by Price Responsive Demand as calculated in (g) below;

and for Demand Resources, Energy Efficiency Resources, and Qualifying Transmission Upgrades: Resource Committed Capacity;

where

Resource Committed Capacity = the total megawatts of capacity committed from such Capacity Resource, where such capacity shall be in installed capacity terms for Demand Resources and Energy Efficiency Resources ~~committed capacity without making any adjustment for the Forecast Pool Requirement~~

and

Actual Performance =

for each generation resource, the metered output of energy delivered to PJM by such resource plus the resource's real-time reserve or regulation assignment, if any, during the Performance Assessment Interval;

for each storage resource, the metered output of energy delivered to PJM by such resource plus the resource's real-time reserve or regulation assignment, if any, during the Performance Assessment Interval;

for each Demand Resource, the demand response provided to PJM by such resource, plus such resource's real-time reserve or regulation assignment, if any, during the Performance Assessment Interval, as established through the PJM demand response settlement procedure consistent with the standards specified in RAA, Schedule 6;

for each PRD Provider, the actual load reduction provided by the PRD Provider during a Performance Assessment Interval, determined in accordance with RAA, Schedule 6.1.N and the PJM Manuals;

for each Energy Efficiency Resource, the load reduction quantity approved by PJM subsequent to the pre-delivery year submittal of a post-installation measurement and verification report; and

for each Qualified Transmission Upgrade, the megawatt quantity cleared by such Qualified Transmission Upgrade if it is in service during the Performance Assessment Interval, and zero if it is not in service during such Performance Assessment Interval.

Such calculation shall encompass all resources and Price Responsive Demand located in the area defined by the Emergency Action; provided, however, that Performance Shortfall shall be calculated for external Generation Capacity Resources for any Performance Assessment Interval for which performance by such external resource would have helped resolve the declared Emergency Action that was the subject to the Performance Assessment Hour; provided, however, that for any Delivery Year up to and including the 2019/2020 Delivery Year, Performance Shortfall shall be calculated for external Generation Capacity Resources only during Performance Assessment Hours which the Emergency Action was declared for the entire PJM Region. At the start of the Delivery Year, PJM will inform the Capacity Market Seller of an external resource as to which Locational Deliverability Area it has been assigned. For purposes of this provision, Qualifying Transmission Upgrades shall be deemed to be located in the Locational Deliverability Area into which such upgrade increased the Capacity Emergency Transfer Limit, and a Qualifying Transmission Upgrade shall be included in calculations of Expected Performance and Actual Performance only if, and to the extent that, the declared Emergency Action encompasses the Locational Deliverability Area into which such upgrade increased the Capacity Emergency Transfer Limit. The Performance Shortfall shall be calculated for each Performance Assessment Interval, and any committed Capacity Resource for which the above calculation produces a negative number for a Performance Assessment Interval shall not have a Performance Shortfall for such Performance Assessment Interval.