



Working to Perfect the Flow of Energy

**PJM Manual 18:
PJM Capacity Market**

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Effective Date:

Prepared by

PJM Capacity Market Operations

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- Must conform to all applicable standards of the PJM Regional Transmission Expansion Planning Process.
- Qualified Transmission Upgrades must establish an RPM Credit Limit prior to an RPM Auction.
- Credit requests should be made to PJM's Treasury Department at least two weeks prior to an RPM Auction.

If a Qualifying Transmission Upgrade that was cleared in the Base Residual Auction is not completed by the start of the Delivery Year, the party who submitted the offer shall provide a replacement in the form of an equivalent amount of capacity resource within the Sink LDA by the start of the delivery Year. If replacement capacity is not provided, a Transmission Upgrade Delay Penalty shall apply.

A Qualifying Transmission Upgrade that cleared in the Base Residual Auction will be paid the Locational Price Adder of the Sink LDA less the Locational Price Adder of the Source LDA, multiplied by the megawatt quantity of incremental import capability cleared. A cleared Qualifying Transmission Upgrade is not automatically included in CETL analysis for future delivery years.

Once the Qualifying Transmission Upgrade is in service, the Qualifying Transmission Upgrade is eligible to continue to offer the approved incremental import capability value into future RPM Auctions.

4.6 Bilateral Transactions

Bilateral Transactions in the Reliability Pricing Model are transactions for capacity between a buyer and seller. Bilateral Transactions can may be reported to PJM for inclusion in the PJM billing process for unit-specific capacity or for non unit-specific capacity. Parties in all bilateral transactions reported to PJM agree to indemnify PJM against non-performance by their counterparties in such transactions.

PJM posts reference prices at various points in order to facilitate bilateral trading on the part of market participants. The posted pricing points include LDA and Hub pricing points (associated with a Base Residual Auction (BRA) Resource Clearing Price in a LDA), Net Load pricing points (associated with a Final Zonal Capacity Price less Final Zonal CTR Credit Rate), PZonal pricing points (associated with Preliminary Zonal Capacity Price), FZonal (associated with Final Zonal Capacity Price), FCTR pricing points (associated with Final Zonal CTR Credit Rate), and FILR pricing points (associated with the Final Zonal ILR Price), and 3IA pricing points (associated with a Third Incremental Auction (3IA) Resource Clearing Price in an LDA). The available pricing points and their definitions are posted on the PJM website.

Additional pricing points will be added by PJM if requested by stakeholders. However, the definition of the pricing points will remain static once created.

4.6.1 Unit-Specific Bilateral Transactions

The purpose of reporting a unit-specific bilateral transaction to PJM (regardless of the type of capacity transacted) is to transfer the rights to or control of a specified amount of installed

capacity -from the Seller to the Buyer. Bilateral contracts for unit-specific capacity resources may be offered into PJM's RPM if these products meet the requirements specified in this Manual.

PJM will provide electronic bulletin board functionality in eRPM. The bulletin board allows participants to post and view requests to buy or offers to sell capacity resources. The purpose of the bulletin board functionality is to facilitate bilateral transaction activity.

4.6.2 Entering Unit-Specific Bilateral Transactions

- Unit-specific bilateral transactions reported to PJM may wholly or partially offset an LSE's Locational Reliability Charges in the PJM billing process provided that Available installed capacity purchased through the bilateral transaction is directly offered and cleared in a Base Residual Auction or Incremental Auction or is designated as a self-scheduled resource in a Base Residual Auction (i.e., the RPM Auction Credits received may offset the Locational Reliability Charges assessed in your PJM bill)
- The smallest increment of installed capacity that may be transacted through reported to PJM as unit-specific transactions is 0.1 MW.
- PJM does not recognize "slice of system" or unforced capacity credit bilateral transactions in RPM Auctions.
- Both parties of a unit-specific transaction must confirm the transfer of installed capacity from the seller to the buyer via the eRPM system prior to the start date of the transaction.
- Unit-specific transactions to an "External Party" (i.e., "EXT") must be in "Pending PJM" status two business days prior to the start date of the transaction.
- All unit-specific bilateral transactions that cover the Delivery Year must be in "Provisionally Approved" or "Approved" status in the eRPM system prior to the opening of the Base Residual Auction or an Incremental Auction's bidding window in order for the transactions to be considered in a party's Generation Resource Position and the calculation of Available ICAP to offer for a Base Residual Auction or an Incremental Auction or to be used for self-scheduling in the Base Residual Auction.
- Unit-specific transactions reported to PJM that are effective during the RPM Auction Delivery Year will not be processed by PJM from the time the RPM Auction bidding window is open through the time the RPM Auction results are posted for that Delivery Year.
- Unit-specific transactions that are not in the "Approved" status by the start date of the transaction will have their status changed to "PJM Withdrawn".

Unit-specific bilateral transactions may be requested-reported for the following installed capacity types: Available, Unoffered, or Cleared.

Unit specific transaction s reported-requests for either Available or Unoffered capacity must specify:

- the unit to be transacted;

- a start and end date for the transaction; and
- an installed capacity (ICAP) MW value.

| Unit specific transactions reported requests for Cleared capacity must specify:

- the unit to be transacted,
- a start and end date for the transaction,
- the auction in which the unit cleared, and
- an unforced capacity (UCAP) MW value. Once approved, the unforced capacity MW value will be converted to an installed capacity MW value using the then-current Effective EFORD for the specified unit. The installed capacity MW value is capped at the ICAP Owned by the Seller.

The following are business rules that apply to Unit-Specific Bilateral Transactions:

- If Available capacity type is selected, the eRPM system will validate that the Seller has Daily Available ICAP to offer for the entire term of the transaction. The Daily Available ICAP to offer on a unit is equal to Daily ICAP Owned – Daily Unoffered ICAP - (Daily RPM Resource Commitments/(1-Effective EFORD)) – Daily FRR Capacity Plan Commitments.
- Available installed capacity purchased through a bilateral unit-specific transaction that is registered in PJM's eRPM system may be directly offered into the Base Residual Auction or Incremental Auctions or designated as a self-scheduled resource in the Base Residual Auction.
- If unoffered capacity type is selected, the eRPM system will validate that the Seller has Daily Unoffered ICAP to offer for the entire term of the transaction and validate that the Seller is either External Party (EXT) or FRR Entity.
- The unoffered capacity type may be selected for a unit-specific bilateral transaction if selling a unit externally (formerly known as "delisting") after the Base Residual Auction has been cleared for the specified transaction dates. To delist a unit before the Base Residual Auction has been run, a party may select the Available capacity type to transact installed capacity to an External Party (EXT).
- If cleared capacity is selected, the eRPM system will validate that the Seller has cleared capacity to offer for the entire term of the transaction.
- Approved unit-specific transactions reported to PJM for Cleared capacity will result in a transfer of the Auction Credit for the specified number of UCAP MW from the Seller to the Buyer. In addition, the RPM Resource Commitment for the specified number of UCAP MWs is also transferred from the Seller to the Buyer.

4.6.3 Exporting a Generation Resource

Exporting (formerly known as “Delisting”) a generation resource is accomplished by **entering interreporting** a bilateral transaction with “External Party” (i.e., “EXT”) listed as the “Buyer” in the unit-specific transaction.

Exporting any portion of a generation resource below a party’s Daily RPM Resource Commitments/(1-Effective EFORD) plus Daily FRR Capacity Plan Commitments for the term of the transaction is not permitted. Only Available or Unoffered ICAP on the unit may be exported.

Exporting of a generation resource may only be done by the party that submitted the Capacity Modification for the unit.

If a portion of a generation resource is to be exported, appropriate documentation must be submitted to PJM to demonstrate that the party exporting the generation resource has a financially and physically firm commitment to an external sale of its capacity and therefore, is exempt from the offer requirement for capacity resources in **Attachment DD, Section 6.6 of the PJM Open Access Tariff**. In order for a generation resource that is exported to be considered in the Preliminary Market Structure Screen, the associated unit-specific bilateral transaction must be in an “Approved” status by the date the MMU collects data for the Preliminary Market Structure Screen.

In order for a generation resource that is being exported to be reflected in a party’s Available ICAP Position for an RPM Auction, the associated unit-specific transaction must be in an “Approved” status by the opening of the RPM Auction’s bidding window.

Capacity Export Charge

A Capacity Export Transmission Customer may procure capacity in one PJM Zone and export the capacity from another Zone to outside PJM. Under the FERC approved tariff effective June 1, 2008, the Capacity Export Transmission Customer will pay a Capacity Export Charge and receive a credit similar to the CTR credit if the Final Zonal Capacity Price for the Zone encompassing the interface with the Control Area to which the capacity is exported is higher than the Final Zonal Capacity Price for the Zone in which the resource designated for the export is located. The Capacity Export Charge collected less the credit will be allocated to the LSEs in the Zone from which capacity is exported.

This Capacity Export Charge and credit are assessed daily and billed monthly. These calculations are independent from the CTR calculations based on Base Residual Auction and Second Incremental Auction. The LSE CTR credits and the Incremental CTR credits will not be changed due to Capacity Export Charge/credit calculations.

A Capacity Export Charge is applicable when a firm transmission service is reserved from export source to export interface. There will not be a capacity export charge if non-firm transmission service is purchased to support the capacity export as PJM would have the right to curtail the non-firm transmission service at any time due to limitations in available transmission capability.

If more than one Zone forms the interface with the Control Area to which capacity is exported, the Export Reserved Capacity will be apportioned among the Zones. The Export Reserved Capacity is completely apportioned to the Zone if a fully controllable facility crosses the interface (e.g. dc line). The power flow distribution among multiple interface zones for a capacity export would be based on the PJM RTEP Base Power Flow case for

the applicable Delivery Year. The power flow distribution calculations are done by modeling the de-listed generator as the source and the designated external load as the sink for the specific capacity exports to be analyzed.

Capacity Export Transmission Customer incurs for each day a Capacity Export Charge equal to the Reserved Capacity of Long-Term Firm Transmission Service multiplied by (the Final Zonal Capacity Price for the Zone encompassing the interface with the Control Area to which the capacity is exported minus the Final Zonal Capacity Price for the Zone in which the resource designated for the export is located).

To recognize the value of firm Transmission Service held, the Capacity Export Transmission Customer receives a credit similar to Capacity Transfer Rights (CTRs) credits. The credit is the Final Zonal Capacity price difference used in determining the Capacity Export Charge times Export Customer's Allocated Share of the Export Path Import.

4.6.4 Importing an External Generation Resource

Importing an external generation resource is accomplished by entering into a bilateral transaction with "External Party" (i.e., "EXT") listed as the "Seller" in the unit-specific transaction. Unit-specific transactions that represent capacity imports will not be granted a "Provisionally Approved" status unless an indication of the intended ATC path to deliver the external capacity to PJM is provided. An "Approved" unit-specific transaction status will not be granted until firm transmission service from the unit to the border of PJM has been obtained and generation deliverability has been demonstrated into PJM.

External generators must demonstrate generation deliverability into PJM by (1) obtaining firm point-to-point transmission service on the PJM OASIS from the border into the PJM transmission system (this applies to service on the PJM transmission system) or (2) obtaining "Network External Designated" transmission service with an expected completion date prior to June 1st of the delivery year. Either of the above options for demonstrating deliverability may require transmission upgrades to be completed prior to June 1st of the delivery year. All of the above options follow the study process for participant-funded upgrades as defined in **Part VI of the PJM Open Access Transmission Tariff**.

Unit-specific transactions that are not in the "Approved" status by the start date of the transaction will have their status changed to "PJM Withdrawn".

Unit-specific transactions that are not "Approved" should refer to the RPM credit business rules for their associated credit requirements.

4.6.5 Treatment of Unit-Specific Capacity Transactions that Start/End Mid-Delivery Year

Unit-specific transactions **reported** with a Start Date that does not correspond to June 1 or an End Date that does not correspond to May 31 will result in installed capacity that cannot be offered into the Base Residual Auction since a single party does not own the installed capacity for the entire Delivery Year. In addition, this installed capacity will be tracked as Unoffered Capacity after the Base Residual Auction. To address this issue, PJM will facilitate a voluntary process to enable the installed capacity to be offered into the Base Residual Auction for the Delivery Year.

In order to participate, each party of the unit-specific transaction that starts/end Mid-Delivery Year must sign and submit a Self-Schedule Authorization Form found in **Attachment E of**

this Manual, which authorizes PJM to self-schedule the capacity on behalf of the parties in the Base Residual Auction for the Delivery Year. The Authorization Form must be submitted to RPM_Hotline@pjm.com at least 5 business days prior to the opening of the bidding window.

Each party of the unit-specific transaction that starts/ends Mid-Delivery Year must submit a new unit-specific transaction in eRPM with “Self-Scheduling Coordinator (SELFSC)” as the Buyer prior to the opening of the Base Residual Auction bidding window, so the capacity will be transferred into the SELFSC account for the entire Delivery Year at the time of the Base Residual Auction.

Provided the Self-Schedule Authorization Forms are received and the required unit-specific transactions are submitted, PJM will self-schedule and clear the capacity on-behalf of the parties in the Base Residual Auction for the Delivery Year. A submitted EFORD equal to the Effective EFORD at the time of the Base Residual Auction will be used in the resource-specific sell offer in the Base Residual Auction.

After the Base Residual Auction results are posted, PJM will submit unit-specific transactions for Cleared MWs with “SELFSC” as the Seller to transfer capacity back to the Parties (i.e., Buyer in the unit-specific transaction) for the appropriate time periods. No confirmation is required by the Buyer of the unit-specific transaction. The approved unit-specific transactions for Cleared MWs will result in the transfer of ICAP Owned, RPM Resource Commitments, and Auction Credits from the SELFSC account to the Buyer. The Buyer of the Cleared MWs is responsible for any Capacity Resource Deficiency Charges that may be assessed during the term of the unit-specific transaction. In addition, the Buyer of the Cleared MWs is responsible for their share of any Peak-Hour Period Availability Charges, Generation Resource Rating Test Failure Charges, or Peak Season Maintenance Compliance Penalty Charges that may be assessed during the Delivery Year.

4.6.6 ~~Non-UnitAuction~~ Specific ~~Capacity-MW~~ Transactions

RPM Market Participants have the ability to ~~create report Non-UnitAuction~~ Specific ~~Capacity MW~~ Transactions ~~to PJM~~ through the eRPM system. ~~Non-UnitAuction~~ Specific ~~Capacity MW~~ Transactions ~~will be treated as financial settlements only in RPM must be for the transfer of physical MW of capacity from a seller to a buyer at the location of the physical resources identified as supplying the transaction. Non-Unit Specific Capacity Transactions will not change the resource position or load obligation of an entity.~~

The following are business rules that apply to ~~Non-UnitAuction~~-Specific ~~Bilateral-MW~~ Transactions

- ~~Non-UnitAuction~~ Specific ~~Capacity-MW~~ Transactions are not eligible to be offered in an RPM auction ~~or used to meet the region’s unforced capacity obligation.~~
- ~~Auction Specific MW Transactions for a Delivery Year may be submitted following the completion of the Third Incremental Auction for the delivery year to which the transaction applies.~~
- ~~Both the Buyer and the Seller of Auction Specific MW Transaction must confirm the Auction Specific MW Transaction via the eRPM system by 23:59 EPT before the start date of the transaction.~~

- An Auction Specific MW Transaction must specify the buyer, seller, start and end dates of the transaction.
- The Seller of the Auction Specific MW must also specify the resource(s) (generation resource or demand resource or Energy Efficiency Resource), Auction Type (Base, First, Second, Third, or Conditional), and the MW amount of Auction Specific MW to be transacted from each resource. PJM will verify that the MW of capacity from each of the resources identified as supplying the Auction Specific MW Transaction have cleared in an RPM auction and that at least the MW of cleared capacity indicated for each resource is not committed in any other bilateral transactions. If such sufficient cleared capacity does not exist on any of the indicated resources, PJM will reject reporting of the transaction.
- ~~Both the Buyer and the Seller of a Non-Unit Specific Capacity Transaction must submit and confirm the transaction via the eRPM system by the following daily accounting deadlines (all times in Eastern Prevailing Time):~~
 - a. ~~1:00 PM (Tuesday – Friday) for transactions beginning on the previous day~~
 - b. ~~5:00 PM (Monday) for transactions beginning Friday, Saturday, or Sunday~~
 - c. ~~5:00 PM (a day after the holiday) for transactions beginning on a holiday~~
- Auction Specific MW Transactions may not extend past the last day of the delivery year containing the start date of the transaction.
- ~~Non-Unit Specific Capacity Transaction requests must specify the buyer, seller, start and end dates of the transaction, the transaction amount (in MW), and the pricing point at which to settle the transaction.~~
- Auction Specific MW Transactions are priced at the weighted average of the Resource Clearing Prices from the RPM auctions in which the MW from the units supplying the transaction cleared.
- ~~The pricing points include LDA and Hub pricing points (associated with a Base Residual Auction (BRA) Resource Clearing Price in a LDA), Not Load pricing points (associated with a Final Zonal Capacity Price less Final Zonal CTR Credit Rate), PZonal pricing points (associated with Preliminary Zonal Capacity Price), FZonal (associated with Final Zonal Capacity Price), FCTR pricing points (associated with Final Zonal CTR Credit Rate), and FILR pricing points (associated with the Final Zonal ILR Price), and 3IA pricing points (associated with a Third Incremental Auction (3IA) Resource Clearing Price in an LDA). The available pricing points and their definitions are posted on the PJM website.~~
- ~~Additional pricing points will be added by PJM if requested by stakeholders. However, the definition of the pricing points will remain static once created.~~
- The smallest increment that may be transacted through an Non-Unit Auction Specific Capacity-MW Transaction is 0.1 MW.

- The Seller of the Auction Specific MW is subject to all applicable resource performance assessments.
- The parties involved in an Non-Unit Auction Specific Capacity MW Transaction will ~~not~~ be subject to a credit check ~~(to be consistent with eSchedules).~~
- PJM reserves ~~all rights~~ the right under the PJM Operating Agreement and PJM Open Access Transmission Tariff, ~~including terminating the Non-Unit Specific Capacity Transaction, to deny reporting of Auction Specific MW Transactions~~ in the event one of the parties fails to meet any ~~obligations under the OA or Tariff~~ requirements for such reporting.
- The Seller of an Non-Unit Auction Specific Capacity MW Transaction will receive a charge equal to the transaction amount (in MW) times the price associated with ~~the pricing point specified in~~ the transaction.
- The Buyer of an Non-Unit Auction Specific Capacity MW Transaction will receive a credit equal to the transaction amount (in MW) times the price associated with ~~the pricing point specified in~~ the transaction.

4.6.7 Cleared Buy Bid Transactions

RPM Market Participants have the ability to create-report Cleared Buy Bid Transactions through the eRPM system. A Cleared Buy Bid Transaction allows the holder of a Cleared Buy Bid from an Incremental Auction to transfer Cleared Buy Bid MWs to another party for the term of the transaction. A Cleared Buy Bid Transaction will not change the resource position or load obligation of an entity. However, the Buyer may use the Cleared Buy Bid MWs as a replacement resource in a Replacement Capacity Transaction.

The following are business rules that apply to Cleared Buy Bid Transactions

- Cleared Buy Bid MWs are not eligible to be offered in an RPM auction.
- Both the Buyer and the Seller of Cleared Buy Bid MWs must confirm the Cleared Buy Bid transaction via the eRPM system by 23:59 EPT before the start date of the transaction.
- A Cleared Buy Bid Transaction must specify the buyer, seller, start and end dates of the transaction, the transaction amount (in MW), the LDA and Incremental Auction associated with the Cleared Buy Bid.
- The smallest increment that may be transacted through a Cleared Buy Bid Transaction is 0.1 MW.
- Cleared Buy Bid transaction results in the “Buyer” receiving the Cleared MWs in the applicable LDA and the associated Incremental Auction Charges that would have been assessed to the Seller for the term of the transaction.

4.6.8 Locational Unforced Capacity (UCAP) Transactions

RPM Market Participants have the ability to create-report Locational UCAP Transactions through the eRPM system. A Locational UCAP Transaction allows a party with available resource-specific capacity to transfer Locational UCAP (MWs) to another party. A Locational

Resource Make-Whole Credits from the First or Third Incremental Auctions are charged to all cleared buy bids on a pro-rata basis based on the MWs cleared in such auction.

9.3.4 Capacity Transfer Rights Credit

Each Zonal Capacity Transfer Rights (CTRs) owner will receive a daily Zonal CTR Credit equal to the Zonal CTRs owned multiplied by the Zonal CTR Settlement Rate. Zonal CTRs owned include the Zonal CTRs allocated to an LSE and the results of any CTR transfers. The Zonal CTR Settlement Rate is the Total Economic Value of CTRs in Zone (\$/day) as a result of the Base Residual Auction and Second Incremental Auction divided by the total Zonal CTRs (MWs) allocated to LSEs.

$$\text{ZonalCTRCredit} = \text{ZonalCTRsOwned} \times \text{ZonalCTRSettlementRate}$$

Each Incremental CTR owner will receive a daily Incremental CTR Credit equal to the Incremental CTRs owned multiplied by the Zonal Incremental CTR Credit Rate. Credits will be calculated daily and billed monthly during the Delivery Year.

$$\text{IncrementalCTRCredit} = \text{IncrementalCTRsOwned} \times \text{ZonalIncrementalCTRCreditRate}$$

CTRCredits will be calculated daily and billed monthly during the Delivery Year.

9.3.5 Non-UnitAuction Specific Capacity-MW Transaction Credits and Charges

The Seller of an Non-UnitAuction Specific Capacity-MW Transaction will receive a charge equal to the transaction amount (in MW) times the price associated with the pricing point specified in the transaction. The price associated with the transaction is a weighted average of the Resource Clearing Prices of the resource-specific, auction-specific Cleared MWs identified in the transaction.

$$\text{SellerCharge} = \text{TransactionAmount} \times \text{WeightedAverage ResourceClearing Price}$$

The Buyer of a Non-UnitAuction Specific Capacity-MW Transaction will receive a credit equal to the transaction amount (in MW) times the price associated with the pricing point specified in the transaction.

$$\text{BuyerCredit} = \text{TransactionAmount} \times \text{WeightedAverage ResourceClearing Price} \text{ [SK1]}$$

Charges and Credits for Non-UnitAuction Specific Capacity-MW Transactions are calculated daily and billed monthly for the duration of the transaction during the Delivery Year.

9.3.6 Interruptible Load for Reliability Credits

Each Interruptible for Load Reliability (ILR) resource provider will receive an ILR Credit equal to the zonal MW amount certified for the ILR resource times the Final Zonal ILR Price.

$$\text{ILRReliabilityCredits} = \text{ZonalMWsCertified} \times \text{FinalZonalILRPrice}$$

ILR Reliability Credits are calculated daily and billed monthly during the Delivery Year.

9.3.7 Capacity Export Charges and Credits

Section 10: eRPM

Welcome to the *eRPM* section of the PJM Manual for the *PJM Capacity Market*. In this section, you will find the following information:

- A description of the PJM eRPM Auction system (see "PJM eRPM Overview").

10.1 Overview

PJM eRPM is an Internet application that allows Market Participants to participate in PJM's RPM Auctions and view load and obligation data. Figure 9.1 presents a conceptual view of the RPM auction subsystems.

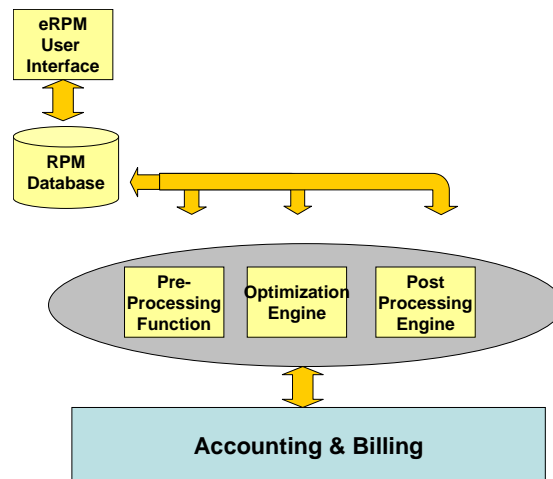


Exhibit 4: RPM Auction Subsystems

The Market User Interface (MUI) allows market participants to:

- Maintain their resource portfolio by increasing or decreasing their installed capacity values for generation, demand resources, and energy efficiency resources via Capacity Modifications, Demand Resource Modifications, and Energy Efficiency Modifications.
- ~~Enter into~~ Report Unit Specific Bilateral Transactions with a counterparty
- ~~Report Enter into Non-Unit Auction~~ Specific ~~MW (or financial)~~ Transactions with a counterparty
- ~~Report Enter into~~ Locational UCAP Transactions
- ~~Report Enter into~~ Cleared Buy Bid Transactions
- Submit Resource Offers to sell capacity into an RPM auction
- Submit replacements for RPM Auction Commitments
- View Auction Results

Section 11: Fixed Resource Requirement Alternative

Welcome to the *Fixed Resource Requirement Alternative* section of the PJM Manual for the *PJM Capacity Markets*. In this section, you will find the following information:

- An overview of the Fixed Resource Requirement Alternative (see “Overview of the Fixed Resource Requirement Alternative”)
- The business rules for determining Load Obligations in FRR (see “Load Obligations”)
- The business rules for creating the Capacity Plan in FRR (see “Capacity Plan”)
- The business rules for supply resources in the FRR Alternative (see “Supply Resources in the FRR Alternative”)
- The business rules for locational constraints in the FRR Alternative (see “Locational Constraints in the FRR Alternative”)
- The conditions on sales by FRR Entities (see “Conditions on Sales by FRR Entities”)
- The business rules for Delivery Year Activity (see “Deliver Year Activity”)
- The business rules for the calculation of deficiency charges and penalties (see “Deficiency Charges and Penalties”)
- The business rules for the allocation of deficiency charges (see “Allocation of Deficiency Charges”)
- The business rules for ~~non-unit Auction~~ sSpecific ~~capacity-MW~~ Itransactions (see “~~Non-Unit Auction~~ Specific ~~Capacity-MW~~ Transactions”)

11.1 Overview

11.1.1 Definition and Purpose of Fixed Resource Requirement Alternative

The purpose of the Fixed Resource Requirement (FRR) Alternative is to provide a Load Serving Entity (LSE) with the option to submit a FRR Capacity Plan and meet a fixed capacity resource requirement as an alternative to the requirement to participate in the PJM Reliability Pricing Model (RPM), which includes a variable capacity resource requirement.

The FRR Alternative allows an LSE, subject to certain conditions, to avoid direct participation in the RPM Base Residual Auctions and the Incremental Auctions; however, such LSE is required to submit a FRR Capacity Plan to satisfy the unforced capacity obligation for all load in an FRR Service Area, including all expected load growth in the FRR Service Area.

An LSE serving load in an FRR Service Area under the FRR Alternative does not pay an RPM Locational Reliability Charge. The portions of capacity resources included in an LSE’s FRR Capacity Plan do not receive any RPM Resource Clearing Prices.

- Available or Unoffered installed capacity purchased through a bilateral unit-specific transaction that is registered-inreported via PJM's eRPM system may be committed to an FRR Capacity Plan.
- All unit-specific bilateral transactions that are in the "Provisionally Approved" or "Approved" status in the eRPM system will be considered in a party's Daily Generation Resource Position and the calculation of Daily Available ICAP to commit.
- The Capacity Export Charge and Credit described in Section 4: Supply Resources in the Reliability Pricing Model, under BILATERAL TRANSACTIONS and in Section 9: Settlements are applicable to resources owned by FRR Entities also.

11.4.6 Qualified Transmission Upgrade

- A Qualified Transmission Upgrade may be included in an LSE's FRR Capacity Plan. Such a transmission upgrade must be approved and assigned an incremental import capability value into the constrained LDA by the PJM Planning Department at least 45 days prior to deadline for submitting the initial FRR Capacity Plan for the Delivery Year.
- An approved Qualified Transmission Upgrade may be used to reduce the Amount of Internal Capacity Required in the LDA for the FRR LSE.
- The planned transmission upgrade in-service date must be on or before the start of the Delivery Year.
- At a minimum, a facilities study agreement must be executed for the proposed transmission upgrade, in order for approval to be granted and the transmission upgrade must conform to all applicable standards of the PJM Regional Transmission Expansion Planning Process.
- If a Qualified Transmission Upgrade is not completed by the start of the Delivery Year, the LSE who included the upgrade as part of their FRR Capacity Plan for the Delivery Year shall provide a replacement in the form of an equivalent amount of capacity resource capability within the applicable LDA by the start of the delivery Year. If replacement capacity is not provided, a Capacity Resource Deficiency Charge may apply.

11.4.7 Load Management Products

- A Load Management product (e.g., Direct Load Control, Firm Service Level, or Guaranteed Load Drop program) is eligible to be committed as a Demand Resource (DR) to the FRR Capacity Plan, if the product meets the requirements specified in the Load Data Systems Manual (M-19).
- A Load Management product is exempt from the winter and summer capacity testing requirement.
- A resource provider who wishes to commit a Load Management product as a Demand Resource must provide (or contract with another party to provide) the following through the submittal of a Load Management Certification upload into the PJM Load Response system:

11.9.7 Load Management Test Compliance

- Effective 2009/10 Delivery Year, DR and ILR Resource providers are required to simultaneously test all of their committed DR and certified ILR resources in a zone if no PJM-initiated load management event is called by PJM during the Delivery Year.
- Please see Section 8 of this manual for details on Load Management Test Compliance.

11.10 Allocation of Deficiency Charges

- The Daily FRR Capacity Resource Deficiency Charges, FRR Transmission Upgrade Delay Penalties, Generation Resource Rating Test Failure Charges, and Peak Season Maintenance Compliance Penalty Charges are distributed on a pro-rata basis to the LSEs in the RTO that were charged an RPM Locational Reliability Charge.
- Daily Capacity Resource Deficiency Charges, Transmission Upgrade Delay Penalties, Generation Resource Rating Test Failure Charges, and Peak Season Maintenance Compliance Penalty Charges are allocated on a pro-rata basis to RPM LSEs based on their daily unforced capacity obligation.

11.11 ~~Non-UnitAuction~~ Specific ~~Capacity-MW~~ Transactions

11.11.1 ~~Non-UnitAuction~~ Specific ~~Capacity-MW~~ Transactions

- LSEs that elect the FRR Alternative ~~are eligible to create~~ may report ~~Non-UnitAuction~~ Specific ~~Capacity-MW~~ Transactions if they have cleared capacity in RPM Auctions through the eRPM system.
- Approved ~~Non-UnitAuction~~ Specific ~~Capacity-MW~~ Transactions do not contribute to the Sales Cap Amount for RPM Auctions described in the FRR Business Rules.

11.11.2 ~~Conversion of Unforced Capacity Credit Transactions~~

- ~~Unforced Capacity Credit Transactions from the eCapacity system that involve an LSE that elects the FRR Alternative are converted to Non-Unit~~



~~Specific Capacity Transactions per the “Conversion of Unforced Capacity Credit Transactions” section of the RPM Business Rules.~~

Base Zonal Unforced Capacity Obligation – determined for each zone and is equal to the (Zonal Weather Normalized Summer Peak for the summer four years prior to the Delivery Year* Base Zonal RPM Scaling Factor * the Forecast Pool Requirement) + Forecast Zonal ILR Obligation. Base Zonal Unforced Capacity Obligations are posted with the Base Residual Auction clearing results.

Behind the Meter Generation – a generating unit that delivers energy to load without using the Transmission System or any distribution facilities (unless the entity that owns or leases the distribution facilities consented to such use of the distribution facilities and such consent has been demonstrated to the satisfaction of the Office of Interconnection. Behind the Meter Generation may not include at any time any portion of a generating unit's capacity that is designated as a Capacity Resource or any portion of the output of a generating unit that is sold to another entity for consumption at another electrical location or into the PJM Interchange Energy Market at any time.

Bilateral Market – provides LSEs the opportunity to hedge the Locational Reliability Charge determined through the BRA and Second Incremental Auction. The bilateral market also provides resource providers an opportunity to cover any auction commitment shortages.

Bilateral Unit-Specific Transaction – transaction that enables [reporting of](#) the transfer of ownership of a specified amount of installed capacity from a specific unit from one party to another.

Capacity Modification (Cap Mod) – transaction that enables generation owners to request the addition of a new unit or the removal of an existing unit from their resource portfolio in eRPM, or the request an MW increase or decrease in the summer or winter installed capacity rating of an existing unit.

Capacity Resources – includes megawatts of net capacity from existing or planned generation capacity resources or load reduction capability provided by Demand Resources or ILR in the PJM Region.

Capacity Emergency Transfer Limit (CETL) – the capability of the transmission system to support deliveries of electric energy to a given area experiencing a localized capacity emergency as determined in accordance with the PJM Manuals.

Capacity Emergency Transfer Objective (CETO) – the amount of electric energy that a given area must be able to import in order to remain within a loss of load expectation of one event in 25 years when the area is experiencing a localized capacity emergency.

Capacity Transfer Rights (CTR) – rights used to allocate the economic value of transmission import capability that exists into a constrained LDA. Serve to offset a portion of the Locational Price Adder charged to load in constrained LDAs.

Control Area – electric power system or combination of electric power systems bounded by interconnection metering and telemetry to which a common generation control scheme is applied in order to

- (a) Match the power output of the generators within the electric power system(s) and energy purchased from entities outside the electric power system(s) with the load within the electric power system(s)
- (b) Maintain scheduled interchange with other Control Areas
- (c) Maintain the frequency of the electric power system(s)

Locational Price Adder – an addition to the marginal value of unforced capacity within an LDA as necessary to reflect the price of resources required to relieve the applicable binding locational constraints.

Locational Reliability Charge – Fee applied to each LSE that serves load in PJM during the delivery year. Equal to the LSEs Daily Unforced Capacity Obligation multiplied by the applicable Final Zonal Capacity Price.

Nested LDAs – when an aggregate of Zones, a Zone and its sub-zones are constrained LDAs, the LDAs are referred to as “Nested”. When LDAs are nested, the Zonal CTR calculations include allocation of CTRs from RTO to aggregate of Zones as well as CTRs from aggregate of Zones to the Zone.

Net Energy & Ancillary Services (E&AS) Offset – is used to offset the value of Cost of New Entry (CONE) to determine the net value of CONE. This value is calculated using the historical averages of Energy & Ancillary Services revenue data for a reference combustion turbine. During the first three Delivery Years (2007/08, 2008/09, 2009/10), the E&AS Offset is calculated using a historical average of the six most recent calendar years. In the subsequent Delivery Years E&AS Offset is calculated using a historical average of the three most recent calendar years.

New Entry Pricing – is an incentive provided to a Planned Generation Resource 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. This allows Planned Generation Resources to recover the amount of its cost of entry-based offer for up to two additional consecutive years, under certain conditions, and to set the clearing price of all resources within that LDA for all three years.

Nominated DR Value – the nominated value of a Demand Resource or ILR Resource is the value of the maximum load reduction and the process to determine this value is consistent with the process for the determination of the capacity obligation for the customer. Therefore, the maximum load reduction for each resource is adjusted to include system losses.

Non-Retail Behind the Meter Generation – Behind the Meter Generation that is used by municipal electric systems, electric cooperatives, and electric distribution companies to serve load.

Non-Unit Auction Specific Capacity-MW Transactions – are transactions ~~in-reported to PJM via eRPM between a buyer and seller that facilitate financial settlement, only, report the transfer of physical MW~~ between the buyer and seller using the eRPM system and PJM settlement process. ~~Non-Unit Auction Specific Capacity-MW Transactions will not change the resource position or load obligation of an entity, and~~ are not eligible to be offered in an RPM auction ~~or used to the meet the region's unforced capacity obligation~~. ~~Non-Unit Auction Specific Capacity-MW Transactions can be~~ settled at ~~a Zone or Capacity Hub as defined by PJM~~ the weighted average Resource Clearing Price of the MW supplying the transaction. ~~Non-Unit Specific Capacity Transactions were formerly known as Financial Capacity Transactions.~~

Non-Zone Load – the load that is located outside of the PJM Region served by a PJM Load Serving Entity using PJM internal resources. Non-Zone Load is included in the load of the Zone from which the load is served.

Locational Deliverability Areas during Transition Period

During the Transition Period, Locational Deliverability Areas for Each Transition Delivery Year shall be as follows:

Transition Delivery Year	Locational Deliverability Areas
2007/2008, 2008/2009, 2009/2010	<ul style="list-style-type: none"> • PJM Mid-Atlantic Region and APS • Eastern MAAC (PSE&G, JCP&L, PECO, AE, DPL, and RECO) • Southwestern MAAC (PEPCO & BG&E) • RTO
2010/2011 and later	<ul style="list-style-type: none"> • All 23 LDAs.

~~Conversion of Unforced Capacity Credit Transactions~~

~~Unforced Capacity Credit Transactions that were approved in the eCapacity system on or before April 1, 2006 and terminate after May 31, 2007 will be transferred into the eRPM system with a start date of June 1, 2007 as Non-Unit Specific Capacity Transactions.~~

~~The following are business rules that apply to the conversion of Unforced Capacity Credit transaction in eCapacity to Non-Unit Specific Bilateral Transactions in eRPM:~~

- ~~• The Seller of a UCC Transaction from eCapacity will become the Seller of the Non-Unit Specific Capacity Transaction. The Buyer of a UCC Transaction from eCapacity will become the Buyer of the Non-Unit Specific Capacity Transaction.~~
- ~~• Non-Unit Specific Capacity Transactions converted from UCC Transactions will be priced at the UCC Conversion Index price.~~
- ~~• The UCC Conversion Index price is equal to the marginal value of system capacity from the Base Residual Auction plus any Locational Price Adder corresponding to the Mid-Atlantic Region plus the APS zone for the 2007-2008 Delivery Year.~~
- ~~• The UCC Conversion Index price is equal to the marginal value of system capacity from the Base Residual Auction for the 2008-2009 Delivery Year and thereafter.~~
- ~~• Unforced Capacity Credit Transactions that were approved in the eCapacity system after April 1, 2006 and terminate after May 31, 2007 will be terminated on May 31, 2007. These transactions will not be transferred into the eRPM system.~~
- ~~• Unforced Capacity Credit Transactions that were approved in the eCapacity system after April 1, 2006 and begin after June 1, 2007 will be denied by PJM. These transactions will not be transferred into the eRPM system.~~
- ~~• Unforced Capacity Credit (UCC) Transactions from eCapacity that are converted to Non-Unit Specific Capacity Transactions are treated as financial settlements only in RPM. Non-Unit Specific Capacity Transactions will not change the resource position or load obligation of an entity.~~

- ~~Non-Unit Specific Capacity Transactions are not eligible to be offered in an RPM auction or used to meet the region's unforced capacity obligation.~~

~~Parties may choose to reform their existing forward unforced capacity transactions by withdrawing or terminating these transactions within the eCapacity system and creating new Unit Specific Bilateral or Non-Unit Specific Capacity Transactions within the eRPM system. Withdrawal or termination requests from each party in the UCC transaction should be emailed to PJM at RPM_Hotline@pjm.com.~~