

Seasonal Resources and Aggregation in RPM



Agenda

- Seasonal Capacity Overview
- Commercial Aggregation
- Facilitated Aggregation of Seasonal CP Sell Offers
- DR/EE Sell Offer Plans and Set-up
- Winter CIRs
- Replacement Transactions



Objectives



At the conclusion of this training you will be able to...

- Identify the resources eligible for seasonal resource treatment
- Describe the options for seasonal resource sell offers
- Describe the commercial aggregate construct
- Describe the facilitated aggregate construct and clearing mechanism
- Describe the updated eRPM screens for seasonal resources
- Define the use of Winter CIRs
- Explain the rules for replacement of seasonal/aggregate commitments

Disclaimer:

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<http://www.pjm.com/documents/agreements/pjm-agreements.aspx>

For additional detailed information on any of the topics discussed, please refer to the appropriate PJM manual which can be found by accessing:

<http://www.pjm.com/documents/manuals.aspx>

Seasonal Capacity Overview



Overview

- Effective with the 2020/2021 Delivery Year, PJM will only procure Capacity Performance Resources in each auction
- Capacity Performance Resources must be capable of sustained, predictable operation that allows resource to be available to provide energy and reserves during performance assessment hours throughout the Delivery Year
- Intermittent Resources, Capacity Storage Resources, Demand Resources and EE Resources are categorically exempt from the RPM CP must-offer requirement
 - Intermittent Resources are generation resources with output that can vary as a function of its energy source, such as wind, solar, landfill gas, run of river hydro, and other renewable resources

Overview

- Intermittent Resources and Capacity Storage Resources may participate as a stand-alone resource with annual CP offer at level that recognizes risk of non-performance based on expected output during Performance Assessment Hours
 - Not offering or offering at lower CP commitment quantity reduces risk of non-performance during PAHs and increases quantity eligible for Bonus Performance during PAHs (Bonus Performance MWs for actual energy delivered above committed quantity)
 - Lower capacity market revenues offset by additional revenues during PAHs

Overview

- Intermittent Resources, Capacity Storage Resources, Environmentally-Limited Resources, DR and EE Resources are eligible to participate as:
- Aggregate Resource - Commercial Aggregation
 - A single pseudo capacity resource is created by combining two or more resources that may not alone meet the annual requirements of CP
- Facilitated Aggregation of Seasonal CP Resources
 - RPM Auction clears equal quantities of off-setting Seasonal CP Resources

Aggregate Resource - Commercial Aggregation



Aggregate Resource – Commercial Aggregation

- Capacity Resources which may not, alone, meet the requirements of a Capacity Performance product, may combine their capabilities and offer as a single Aggregate Resource
 - Applies to Intermittent Resources, Capacity Storage Resources, Demand Resources, Energy Efficiency Resources, and Environmentally-Limited resources
- Resources being combined must reside in a single Capacity Market Seller account

Aggregate Resource – Commercial Aggregation

- Seller may offer the Aggregate Resource as Capacity Performance at a UCAP value that is representative of a capacity performance product (not to exceed the sum of the CIR value/UCAP value of the individual resources that make up the aggregate)
- The committed quantity of an Aggregate Resource must be allocated to the underlying capacity resources prior to the start of the Delivery Year with adjustments permitted up to the last day of the month preceding each delivery month
 - Allocated quantities used to determine the Expected Performance of each underlying resource located in a PAH area
 - Quantity allocated to an individual resource cannot exceed the CIR value/UCAP value of the individual resource

Aggregate Resource – Performance Netting

- Performance of an Aggregate Resource for a given PAH is based on the net of the performance of the individual underlying resources that were required to perform during the PAH (i.e. the resources located in the PAH area)
- Non-Performance Assessment Charges/Credits are assessed to the Aggregate Resource – not to the individual resources

Aggregate Resource – Commercial Aggregation

- For BRA modeling and compensation, the Aggregate Resource is located in the smallest LDA common to each individual resource

Examples:

- Aggregate Resource modeled in EMAAC if one resource in PECO zone and second resource in PSEG Zonal LDA
- Aggregate Resource modeled in MAAC if one resource in EMAAC and second resource in SWMAAC
- Aggregate Resource modeled in rest of RTO if one resource in ComEd Zonal LDA and second resource in EMAAC

Aggregate Resource – Commercial Aggregation

- The Aggregate Resource receives the RPM auction clearing price applicable to the modeled location
- The non-performance charge rate for an under-performing Aggregate Resource is based on the rate associated with the LDA in which the under-performing underlying resources are located weighted by the under-performance MW quantity of such resources
 - The stop-loss of the Aggregate Resource however is based on the non-performance charge rate associated with the LDA in which the Aggregate Resource was modeled in the RPM auction

Aggregate Resource – Commercial Aggregation

- Market Seller that intends to create an Aggregate Resource must submit a written email request to rpm_hotline@pjm.com at least two weeks prior to the opening of the RPM Auction.
- Requests must specify*:
 - Capacity resources that are being combined to form the Aggregate Resource
 - Installed capacity owned on each generation resource
 - Nominated DR Value for each Demand Resource
 - Nominated EE Value for each EE Resource
 - Requested UCAP value for Aggregate Resource

*Reference PJM Manual 18 Section 4.9

Aggregate Resource – Commercial Aggregation

- Requests must include explanation with supporting data of how aggregation provides a higher level of annual CP capability (in UCAP MWs) than the individual resources could provide themselves, including an initial seasonal allocation of the Aggregate Resource CP capability among the component resources
- PJM will review requests and provide notification to Market Seller of the UCAP value approved for the Aggregate Resource.

Aggregate Resource – Commercial Aggregation

- PJM will model the Aggregate Resource in the eRPM system for the relevant Delivery Year.
- Once Aggregate Resource is modeled, the Market Seller will not be able to offer into RPM Auction or transact bilaterally for the relevant Delivery Year those individual resources that make up the Aggregate Resource.
- The commitment level of a cleared Aggregate Resource may be updated as a result of being replaced or replacing another resource
- The individual underlying resources that comprise the Aggregate Resource may not be removed from the Aggregate Resource nor can new underlying resources be added.

Aggregate Resource Example

	Wind	Solar	Aggregate Resource
Nameplate Capacity	100 MW	100 MW	n/a
Annual UCAP Value (CIR value)	13 MW	38 MW	51 MW
Zone	ComEd	JCPL	n/a
Modeled LDA	ComEd	EMAAC	Rest of RTO
Average output: summer performance hours	13 MW	38 MW	51 MW
Average output: winter performance hours	40 MW	2 MW	42 MW
Assumed Annual CP Offer MW of Example (Average output of most limited season)	13 MW	2 MW	42 MW

- The individual intermittent resources of above example have a CP capability of 13 MW (Wind) and 2 MW (Solar) using the lowest seasonal average output as a reasonable estimate of annual CP capability.
- An Aggregate Resource formed by combining the two intermittent resources has a CP capability of 42 MW (using the lowest seasonal average of the combined output) versus the 15 MW CP capability of the individual resources.
- An Aggregate Resource formed by combining these two resources would be modeled in the rest of RTO area for RPM auction clearing and pricing purposes.

Aggregate Resource Example (cont.)

- Assume Aggregate Resource of prior slide offers and clears 42 MW and allocates the 42 MW commitment to the individual resources based on expected seasonal performances as:

		Commitment Allocation (UCAP MW)	
Resource	LDA	Summer Period Months	Winter Period Months
Solar	EMAAC	32	2
Wind	ComEd	10	40*
Aggregate	Rest of RTO	42	42

Note: Commitment quantity assigned to underlying resources cannot exceed the CIR value/UCAP Capability of the underlying resource. Example assumes that Wind resource was approved for 40 MW of Winter CIRs.

Aggregate Resource – Summer PAH Example

Example #1: RTO-Wide Emergency Action in summer period

Assume Balancing Ratio = 1.0

Resource	LDA	Output (MW)	Expected Performance (MW)*	Actual Performance (MW)	Performance (MW)
Solar	EMAAC	34	32	34	2
Wind	ComEd	5	10	5	-5
Aggregate	Rest of RTO				-3

- Aggregate Resource performance based on net performance of all underlying individual resources since all were located in PAH area
- Aggregate Resource assessed non-performance charge based on 3 MW under-performance at non-performance charge rate associated with ComEd LDA (100% weighting of the LDA associated with the non-performing underlying resource in this example)

**Expected Performance equals Balancing Ratio times Allocated Commitment MW applicable to the season (see prior slide)*

Facilitated Aggregation of Seasonal CP Sell Offers



Seasonal CP Sell Offers

- Intermittent Resources, Capacity Storage Resources, Environmentally-Limited Resources, Summer-Period DR Resources and Summer-Period EE Resources are eligible to submit Seasonal CP Resource sell offers
- Seasonal CP Resource sell offers consist of:
 - Summer-period sell offers which take on a commitment and performance obligation for months of June thru October and following May if cleared
 - Winter-period sell offer which takes on a commitment and performance obligation for months of November thru April if cleared

Seasonal CP Sell Offer Structure

- Intermittent Resources, Capacity Storage Resources and Environmentally-Limited Resources may submit a sell offer for CP capacity (i.e. annual capability) and/or a separate sell offer for either summer-period capacity or winter-period capacity
 - Total sell offer quantity for each season may not exceed the lower of the resource’s UCAP Value or the resource’s “seasonal” CIR value
 - NOT A COUPLED OFFER
 - Annual and CP Seasonal Offer segments are cleared independently
 - Seasonal sell offer segments must be flexible (Min MW = 0)

Seasonal CP Sell Offers – DR and EE

- DR Resources and EE Resources may submit a sell offer for CP capacity (i.e. annual capability) and/or a separate sell offer for summer-period capability
 - Annual CP MW quantity of DR and EE defined as the lesser of their summer or winter capability
 - NOT A COUPLED OFFER
 - Annual and CP Seasonal Offer segments are cleared independently
 - Seasonal sell offer segments must be flexible (Min MW = 0)

Seasonal CP Sell Offers

- Auction clearing algorithm will clear all annual CP sell offers, summer-period CP sell offers and winter-period CP sell offers simultaneously to minimize bid-based cost of satisfying the reliability requirements of the RTO and each modeled LDA subject to all applicable requirements and constraints, including:
 - LDA CETL values (same as today)
 - Total cleared summer-period sell offers must exactly equal total cleared winter-period sell offers across the entire RTO (new constraint to ensure that seasonal CP sell offers clear to form annual CP commitments)

Seasonal CP Sell Offers

- Equal matching of cleared opposite-season sell offer quantities is not enforced at the LDA level; however, only equally matched quantities of opposite-season sell offers within an LDA are considered as satisfying the LDA's reliability requirement
 - Unmatched cleared quantities are effectively “moved” to the next higher level constrained LDA until a match is found
 - Only the equally matched cleared quantity within each LDA may receive that LDA's price (within this group, those resources with the lowest sell offer price will receive the LDA price; and remaining cleared capacity is effectively moved to the next higher level constrained LDA for price determination purposes)

Seasonal CP Sell Offers

- Cleared Seasonal CP Resource sell offers receive a daily auction credit for each day of the applicable commitment period based on cleared UCAP MW and the auction clearing price applicable to the resource
- The clearing price applicable to a cleared Seasonal CP Resource sell offer is guaranteed to be no less than the resource's sell offer price but no guarantee that the applicable clearing price is the same as that which is applicable to similarly located cleared Annual CP Resources
- Non-performance charge rate of a cleared Seasonal CP Resource sell offer is based on the physical location of the resource

Seasonal CP Sell Offers – eRPM Screens

- The Resource Confirmation screen will include a column showing which resources are eligible to submit seasonal sell offers
- The Buy & Sell screen will display the Available MW by season for each seasonal resource.
 - Annual and Summer MW to offer for DR Resources and EE Resources based on the quantities specified by the CSP in the DR and EE Setup screens
- The Buy & Sell screen will have ten segments available for seasonal resources to offer seasonal segments as Summer or Winter

Updated eRPM Screens – Generation Sell Offer Screen

- Auctions – Buy & Sell: Available ICAP positions will be shown annually and by season. There will be a drop-down to select “Summer” or “Winter”.
- NOT A COUPLED OFFER – Annual CP and Seasonal CP sell offer segments clear independently

GEN - PJMTST GENERATOR WF

EFORd:	0	Available ICAP MW			
Max Offer EFORd:	0	Annual	Summer	Winter	
New Unit Pricing:	<input type="checkbox"/>	Current	13	13	40
		Max	13	13	40
		Min	13	13	40

		1	2	3
Capacity Performance (Annual)	Min MW	8.0	0.0	(null)
	Max MW	8.0	5.0	(null)
	Price	50.00	75.00	(null)
Scheduling Option		Regular	Regular	(null)
Self Supply		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Capacity Performance (Seasonal) [Select Control] - Winter	Max MW	20	7	(null)
	Price	60.00	80.00	(null)
Self Supply		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Updated eRPM Screens – DR and EE Sell Offer Screen

- For DR and EE, the Annual MW and Summer MW are based on quantities specified by the provider in DR / EE Resource Set-up Process
- NOT A COUPLED OFFER – Annual CP and Seasonal CP sell offer segments clear independently

DEMAND - PJMTST PECO DR

Available ICAP MW			
	Annual	Summer	Winter
Existing	30	50	-
Planned	20	25	-
Total	50	75	-

		1	2	3	4
Capacity Performance (Annual)	Min MW	30.0	0.0	0.0	(null)
	Max MW	30.0	10.0	10.0	(null)
	Price	0.00	75.00	100.00	(null)
Scheduling Option		Regular	Regular	Regular	(null)
Self Supply		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Capacity Performance (Seasonal) [Select Control] - Summer	Max MW	20	5	(null)	(null)
	Price	0.00	150.00	(null)	(null)
Self Supply		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DR/EE Sell Offer Plan and Resource Set-up



DR Sell Offer Plans and Updated Template

- DR sell offer plan template has been updated such that the CSP must apportion the total MW quantity that it intends to sell into the auction for each zone/sub-zone into...
 - MW quantity it intends to offer as Annual CP
 - MW quantity it intends to offer as Summer-Period DR
 - MW quantity that it intends to use as part of an Aggregate Resource
- Sum of the 3 components cannot exceed the total nominated value
- The CSP is not locked into the allocation of the sell offer plan
 - Final allocation is specified by CSP on the DR set-up screen

2020/2021 DR Sell Offer Plan Template

Zone or Sub-Zone	Existing Nominated DR Value (ICAP MWs)*	Planned Nominated DR Value (ICAP MWs)	Total Nominated DR Value (ICAP MWs)	Total Nominated DR Value to be Offered as Annual CP (ICAP MWs) **	Total Nominated DR Value to be Offered as Summer CP (ICAP MWs) **	Total Nominated DR Value to be included in an Aggregate Resource (ICAP MWs) **
JCPL	95	25	120	60	30	30
PECO	40	20	60	45	15	0
TOTAL	135	45	180	105	45	30

Source: <http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/demand-response-sell-offer-plan-template-for-2020-2021-delivery-year.ashx>

Updated eRPM Screens – DR Existing Setup

- DR Existing Setup screen: Existing MWs allocated to individual DR resources by season

Zone	LDA	Pre-Registration Existing MW	Committed MW	Existing Available MW	Resource Name	Season	Existing MW to Offer
PECO	EMAAC	40.0	0.0	40.0	PJMTST PECO DR	Annual	30.0
						Summer	10.0
Sub-Total							40.0
JCPL	EMAAC	75.0	0.0	75.0	PJMTST JCPL DR	Annual	50.0
						Summer	25.0
JCPL	EMAAC	20.0	0.0	20.0	PJMAGG JCPL DR	Annual	20.0
Sub-Total							95.0

Updated eRPM Screens – DR Planned Setup

- DR Planned Setup screen: Existing MWs allocated to individual DR resources by season. The Credit Requirement for the Summer season will use the same rate as Annual, but multiplied by the number of days in the season divided by the total days in the Delivery Year.

Zone	LDA	Planned MW	Approved MW	Credit Standing	Resource Name	Season	Planned MW to Offer	Credit Requirement
PECO	EMAAC	20.0	20.0	Posted	PJMTST PECO DR	Annual	15.0	\$ 525,000.00
						Summer	5.0	\$ 87,500.00
Sub-Total							20.0	\$ 612,500.00
JCPL	EMAAC	15.0	15.0	Posted	PJMTST JCPL DR	Annual	10.0	\$ 350,000.00
						Summer	5.0	\$ 87,500.00
JCPL	EMAAC	10.0	10.0	Posted	PJMAGG JCPL DR	Annual	10.0	\$ 350,000.00
Sub-Total							25.0	\$ 787,500.00

Pre-Auction Credit Rates for the 2020/2021 BRA are shown in the appendix

Updated eRPM Screens – EE Existing Setup

- EE Existing Setup: Existing MWs allocated to individual EE resources by season. Show the sub-totals by Zone/LDA rather than by Zone/LDA/Installation Period.

Zone	LDA	Installation Period	Post-Installation Existing MW	Committed MW	Existing Available MW	Resource Name	Season	Existing MW to Offer
PECO	EMAAC	2016/2017	3.0	0.0	3.0	PJMTST PECO EE J16M17	Annual	2.0
							Summer	1.0
PECO	EMAAC	2017/2018	0.0	0.0	0.0	PJMTST PECO EE J17M18	Annual	-
							Summer	-
PECO	EMAAC	2018/2019	0.0	0.0	0.0	PJMTST PECO EE J18M19	Annual	-
							Summer	-
PECO	EMAAC	2019/2020	0.0	0.0	0.0	PJMTST PECO EE J19M20	Annual	-
							Summer	-
Sub-Total			3.0	0.0	3.0			3.0

Updated eRPM Screens – EE Planned Setup

- EE Planned Setup: Planned MWs allocated to individual EE resources by season. The Credit Requirement for the Summer season will use the same rate as Annual, but multiplied by the number of days in the season divided by the total days in the Delivery Year.

Zone	LDA	Installation Period	Planned MW	Approved MW	Credit Standing	Resource Name	Season	Planned MW to Offer	Credit Requirement
PECO	EMAAC	2016/2017	3.0	3.0	Posted	PJMTST PECO EE J16M17	Annual	2.0	\$70,000.00
							Summer	1.0	\$17,500.00
PECO	EMAAC	2017/2018	5.0	5.0	Posted	PJMTST PECO EE J17M18	Annual	4.0	\$140,000.00
							Summer	1.0	\$17,500.00
PECO	EMAAC	2018/2019	6.0	6.0	Posted	PJMTST PECO EE J18M19	Annual	4.0	\$140,000.00
							Summer	2.0	\$35,000.00
PECO	EMAAC	2019/2020	8.0	8.0	Posted	PJMTST PECO EE J19M20	Annual	4.0	\$140,000.00
							Summer	4.0	\$70,000.00
Sub-Total			22.0	22.0				22.0	\$630,000.00

Pre-Auction Credit Rates for the 2020/2021 BRA are shown in the appendix

Winter CIRs



Winter CIRs

- Mechanism for allocating winter CIRs to generation resource types that are eligible for aggregation
- Process to request, study and allocate winter CIRs is currently on a year-by-year basis
- Requested winter CIRs for the 2020/2021 delivery year have been evaluated and allocated and may be utilized in the upcoming 2020/2021 BRA

Replacement Transactions



Replacements – Seasonal Commitments

- Cleared seasonal CP summer-period commitment or winter-period commitments may be replaced based on the physical location of the resource.
- May be replaced by available MW from other same-season resources, available MW from annual CP resources or cleared annual CP Buy Bids
- Buy Bids in incremental auctions are only of the annual CP product type

Replacements – Aggregate Resource Commitments

- If an Aggregate Resource commitment is removed or reduced by a replacement transaction, the Capacity Market Seller responsible for the Aggregate Resource must reduce the allocation of commitment to the underlying resources by a commensurate amount
- If an Aggregate Resource commitment is increased by a replacement transaction, the Capacity Market Seller responsible for the Aggregate Resource must increase the allocation of commitment to the underlying resources by a commensurate amount.
- Commercial Aggregates may not replace its components, only the aggregate resource itself
 - Using available CP resources or cleared CP Buy Bids

For questions related to this training, please contact:

rpm_hotline@pjm.com



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The Member Community is PJM's self-service portal for members to search for answers to their questions or to track and/or open cases with Client Management & Services

Appendix



2020/2021 BRA Pre-Auction Credit Rates (\$/MW)

RTO	\$53,463.38
MAAC	\$46,063.00
EMAAC	\$51,665.75
SWMAAC	\$36,943.48
PS	\$56,012.90
PS NORTH	\$56,012.90
DPL SOUTH	\$46,532.03
PEPCO	\$41,341.73
ATSI	\$47,663.53
ATSI-Cleveland	\$47,663.53
COMED	\$60,190.33
BGE	\$32,545.23
PL	\$48,787.73
DAYTON	\$49,848.05
DEOK	\$51,548.95

The Credit Rate for a Summer Period sell offer will use the same rate as Annual, but multiplied by $(184/365)$.

The Credit Rate for a Winter Period sell offer will use the same rate as Annual, but multiplied by $(181/365)$.

Source: <http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/2020-2021-bra-planning-period-parameters.ashx>

2020/2021 BRA LDA Net CONE (\$/MW-Day)

Zone/LDA	Net CONE, \$/MW-Day, ICAP Price	LDA Modeled with VRR Curve
AE	\$280.33	
DPL	\$238.17	DPL SOUTH
JCPL	\$244.73	
PE	\$254.44	
PSEG	\$286.69	PS, PSEG NORTH
RECO	\$282.30	
EMAAC	\$264.44	EMAAC
BGE	\$166.58	BGE
PEPCO	\$211.60	PEPCO
SWMAAC	\$189.09	SWMAAC
METED	\$248.45	
PENELEC	\$130.40	
PPL	\$249.71	PPL
MAAC	\$235.77	MAAC
AEP	\$262.03	
APS	\$230.15	
ATSI	\$243.96	ATSI, ATSI CLEVELAND
COMED	\$308.07	COMED
DAYTON	\$255.14	DAYTON
DEOK	\$263.85	DEOK
DLCO	\$266.96	
DOM	\$277.23	
EKPC	\$276.49	
RTO	\$273.64	RTO

Source: <http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/2020-2021-bra-planning-period-parameters.ashx>

2020/2021 CP Market Seller Offer Caps

ZONE	Gross CONE (\$/MW-Year)	Net E&AS Revenue Offset (\$/MW/Year)	Net Cone (\$/MW-Day) (ICAP Terms)	Balancing Ratio, B (%)⁽³⁾	CP Market Seller Offer Cap (\$/MW-Day)
AECO	\$134,310	\$31,990	\$280.33	78.5	\$220.06
AEP	\$133,413	\$37,771	\$262.03	78.5	\$205.69
APS	\$133,413	\$49,407	\$230.15	78.5	\$180.67
ATSI	\$133,413	\$44,367	\$243.96	78.5	\$191.51
BGE	\$136,733	\$75,931	\$166.58	78.5	\$130.77
COMED	\$133,413	\$20,967	\$308.07	78.5	\$241.83
DAY	\$133,413	\$40,287	\$255.14	78.5	\$200.28
DEOK	\$133,413	\$37,109	\$263.85	78.5	\$207.12
DOM	\$133,413	\$32,224	\$277.23	78.5	\$217.63
DPL	\$134,310	\$47,378	\$238.17	78.5	\$186.96
DUQ	\$133,413	\$35,973	\$266.96	78.5	\$209.56
EKPC	\$133,413	\$32,495	\$276.49	78.5	\$217.04
JCPL	\$134,310	\$44,984	\$244.73	78.5	\$192.11
METED	\$133,465	\$42,780	\$248.45	78.5	\$195.03
PECO	\$134,310	\$41,438	\$254.44	78.5	\$199.74
PENELEC	\$133,465	\$85,869	\$130.40	78.5	\$102.36
PEPCO	\$136,733	\$59,498	\$211.60	78.5	\$166.11
PPL	\$133,465	\$42,320	\$249.71	78.5	\$196.02
PSEG	\$134,310	\$29,668	\$286.69	78.5	\$225.05
RECO	\$134,310	\$31,269	\$282.30	78.5	\$221.61
RTO	\$134,480	\$34,601	\$273.64	78.5	\$214.81

Source: <http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/2020-2021-final-cp-market-seller-offer-cap-values.ashx>

Important Dates for 2020/2021 BRA – DR Providers

Activity	Date
Last day for DR Pre-registration Required for FRR Capacity Plan	3/22/2017
Last day for DR Plan Template and Officer Certification for FRR Capacity Plan	3/22/2017
DR Pre-registration Window opens	4/3/2017
DR Pre-registration Window closes	4/16/2017
Last day for DR Sell Offer Plan and Officer Certification Required	4/18/2017
DR Setup Window opens	4/24/2017
DR Setup Window closes	5/5/2017

Source: <http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/rpm-auction-schedule.ashx>

Important Dates for 2020/2021 BRA – EE Providers

Activity	Date
Last day for Initial/Updated EE M&V Plan Due for RPM	4/10/2017
EE Setup Window Opens	4/24/2017
EE Setup Window Closes	5/5/2017

Source: <http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/rpm-auction-schedule.ashx>