

OATT Attachment DD

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

(a) For the 2018/2019 Delivery Year and any subsequent Delivery Year (and for certain purposes for the 2016/2017 and 2017/2018 Delivery Years as provided in subsections (h) and (i) hereof), each Capacity Market Seller that commits a Capacity Resource for a Delivery Year (whether through an RPM Auction, a bilateral transaction, or as Locational UCAP), each Locational UCAP Seller that sells Locational UCAP from a Capacity Resource for a Delivery Year, and for the 2022/2023 Delivery Year and subsequent Delivery Years each PRD Provider that commits Price Responsive Demand for a Delivery Year, shall be charged to the extent the performance of each of its committed Capacity Resources or Price Responsive Demand during all or any part of a clock-hour when an Emergency Action is in effect falls short of the expected performance of such resources (as determined herein) and the revenue from such charges shall be provided to Market Participants with generation, demand response resources, or Price Responsive Demand that perform during such hour in excess of the level expected based on commitments (if any) of such resources.

(b) Performance shall be measured for purposes of this assessment during each Performance Assessment Interval.

(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 =

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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

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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

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Resource Committed Capacity = the total megawatts of capacity committed from such Capacity Resource committed capacity without making any adjustment for the Forecast Pool Requirement

and for PRD Provider: Price Responsive Demand Committed

where

Price Responsive Demand Committed = the Nominal PRD Value committed by the PRD Provider in the area defined by the Performance Assessment Interval, adjusted to account for any PRD registrations in such area that were not subject to compliance measurement.

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;

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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.

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(d) Notwithstanding subsection (c) above, a Capacity Resource or Locational UCAP of a Capacity Market Seller or Locational UCAP Seller shall not be considered in the calculation of a Performance Shortfall for a Performance Assessment Interval to the extent such Capacity Resource or Locational UCAP was unavailable during such Performance Assessment Interval solely because the resource on which such Capacity Resource or Locational UCAP is based was on a Generator Planned Outage or Generator Maintenance Outage approved by the Office of the Interconnection, or was not scheduled to operate by the Office of the Interconnection, or was online but was scheduled down, by the Office of the Interconnection, based on a determination by the Office of the Interconnection that such scheduling action was appropriate to the security-constrained economic dispatch of the PJM Region. Such a resource shall be considered in the calculation of a Performance Shortfall if it otherwise was needed and would have been scheduled by the Office of the Interconnection to perform, but was not scheduled to operate, or was scheduled down, solely due to: (i) any operating parameter limitations submitted in the resource's offer, or (ii) the seller's submission of a market-based offer higher than its cost-based. In addition, notwithstanding subsection (c) above, a Price Responsive Demand registration shall not be considered in the calculation of a Performance Shortfall or Bonus Performance for a Performance Assessment Interval when the PRD Curve associated with such registration in the PJM Real-time Energy Market indicates a price point where no demand reduction is expected at the real-time LMP recorded during the Performance Assessment Interval.

(e) Subject to the Non-Performance Charge Limit specified in subsection (f) hereof, each Capacity Market Seller and Locational UCAP Seller shall be assessed a Non-Performance Charge for each of its Capacity Resources or Locational UCAP that has a Performance Shortfall for a Performance Assessment Interval based on the following formula, applied to each such resource:

$$\text{Non-Performance Charge} = \text{Performance Shortfall} * \text{Non-Performance Charge Rate}$$

Where

For Capacity Performance Resources and Seasonal Capacity Performance Resources, the Non-Performance Charge Rate = (Net Cost of New Entry (stated in terms of installed capacity) for the LDA and Delivery Year for which such calculation is

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performed \* (the number of days in the Delivery Year / 30) / (the number of Real-Time Settlement Intervals in an hour).

~~(f) The Non-Performance Charges for each Capacity Performance Resource (including Locational UCAP from such a resource) and each PRD Provider for a Delivery Year shall not exceed a Non-Performance Charge Limit equal to 1.5 times the Net Cost of New Entry times the megawatts of Unforced Capacity committed by such resource or such PRD Provider times the number of days in the Delivery Year. All references to Net Cost of New Entry in this section 10A shall be to the Net Cost of New Entry for the LDA and Delivery Year for which the calculation is performed. The Non-Performance Charges for each Seasonal Capacity Performance Resource for a Delivery Year shall not exceed a Non-Performance Charge Limit equal to 1.5 times the Net Cost of New Entry times the megawatts of Unforced Capacity committed by such resource times the number of days in the season applicable to such resource.~~Reserved.

~~(f-1) Effective with the 2025/2026 Delivery Year and subsequent Delivery Years,~~ †The Non-Performance Charges and Non-Curtailment Charges for each Capacity Performance Resource (including Locational UCAP from such a resource) and each PRD Provider for a Delivery Year shall not exceed a Non-Performance Charge Limit equal to 1.5 times the RPM Base Residual Auction clearing price for the applicable Delivery Year and for the LDA where the resource resides, times the megawatts of Unforced Capacity committed by such resource or such PRD Provider, where such megawatts shall be based on the maximum Unforced Capacity committed up through the end of the month in which the PAI or Non-PAI Event occurs, times the number of days in the Delivery Year. The Non-Performance and Non-Curtailment Charges for each Seasonal Capacity Performance Resource for a Delivery Year shall not exceed a Non-Performance Charge Limit equal to 1.5 times the RPM Base Residual Auction clearing price times the number of days in the Delivery Year for the applicable Delivery Year and for the LDA where the resource resides, times the megawatts of Unforced Capacity committed by such resource, where such megawatts shall be based on maximum Unforced Capacity committed up through the end of the month in which the Performance Assessment Interval or Non-PAI Event occurs, times the number of days in the season applicable to such resource.

(g) Revenues collected from assessment of Non-Performance Charges for a Performance Assessment Interval shall be distributed to each Market Participant,

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whether or not such Market Participant committed a Capacity Resource or Locational UCAP for a Performance Assessment Interval, that provided energy or load reductions above the levels expected for such resource during such interval. For purposes of this provision, the performance expected of a resource, and the revenue distribution payment, if any, for a resource, shall be determined in accordance with the following formulae:

Formula 1: Market Participant Bonus Performance = Actual Performance – Expected Performance

and

Formula 2: Performance Payment = (Market Participant Bonus Performance / All Market Participants Bonus Performance) \* Non-Performance Charge Revenues.

Where the result of Formula 1 is a positive number and where:

Actual Performance is as defined in subsection (c), provided, however, that Actual Performance for purposes of this calculation shall not exceed the megawatt level at which such resource was scheduled by the Office of the Interconnection during the Performance Assessment Intervals; and provided further that Actual Performance for a Market Participant that imports energy into the PJM Region during such Performance Assessment Interval shall be the net import, if any, from all interchange transactions scheduled by such Market Participant during such Performance Assessment Interval;

Expected Performance is as defined in subsection (c), provided, however, that for purposes of this calculation, Expected Performance shall be zero for any resource that is not a Capacity Resource or Locational UCAP, or that is a Capacity Resource or Locational UCAP, but for which the Performance Assessment Interval occurs outside the resource's capacity obligation period; and

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All Market Participants Bonus Performance is the sum of the results of calculating Formula 1 of this subsection (g) for all Market Participants that have Bonus Performance during such Performance Assessment Interval.

(h) The provisions of this section 10A shall apply during the 2016/2017 Delivery Year, provided that:

(i) Non-Performance Charges shall be determined solely for and assessed solely on, Capacity Performance Resources committed for such Delivery Year;

(ii) The Non-Performance Charge shall be 0.5 times the Non-Performance Charge calculated under subsection (e) hereof; and

(iii) The Non-Performance Charge Limit for a Delivery Year shall be 0.75 times Net Cost of New Entry times the megawatts of Unforced Capacity committed by such resource times 365.

(i) The provisions of this section 10A shall apply during the 2017/2018 Delivery Year, provided that:

(i) Non-Performance Charges shall be determined solely for, and assessed solely on, Capacity Performance Resources committed for such Delivery Year;

(ii) The Non-Performance Charge shall be 0.6 times the Non-Performance Charge calculated under subsection (e) hereof; and

(iii) The Non-Performance Charge Limit for a Delivery Year shall be 0.9 times Net Cost of New Entry times the megawatts of Unforced Capacity committed by such resource times 365.

(j) The Office of the Interconnection shall bill charges and credits for performance during Performance Assessment Intervals within three calendar months after the calendar month that included such Performance Assessment Intervals, provided, for any Non-Performance Charge, the amount shall be divided by the number of months remaining in the Delivery Year for which no invoice has been issued, and the resulting amount shall be invoiced each such remaining month in the Delivery Year. Notwithstanding, if there are less than six months remaining in the current

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Delivery Year for which no invoice has been issued, the Office of the Interconnection may, with prior notice to PJM Members, allocate in equal amounts any Non-Performance Charge in the remaining monthly bills for the current Delivery Year plus up to six monthly bills into the following Delivery Year for all Capacity Market Sellers that incur such a Non-Performance Charge (but in no event shall the total Non-Performance Charge be divided in more than nine monthly bills). Provided, for any Non-Performance Charges associated with Performance Assessment Intervals from December 23, 2022 and December 24, 2022, a Capacity Market Seller may elect, by providing notice to the Office of Interconnection by March 17, 2023, to divide the total amount of Non-Performance Charges by either (i) the number of remaining monthly bills in the current Delivery Year (i.e., 3 bills) or (ii) the number of remaining monthly bills in the current Delivery Year plus six additional monthly bills into the following Delivery Year (i.e., 9 bills); provided further, however, that for an election under subsection (ii) above, the monthly Non-Performance Charge shall be levelized to include interest for the six month period following the current Delivery Year, such interest amount being determined at the electric interest rate established by the Federal Energy Regulatory Commission at the time of such election. All interest collected in accordance with this provision shall be allocated to the total pool of bonus performance payments and distributed in accordance with Tariff, Attachment DD, section 10A(g).

## **OATT Definitions section**

### Non-PAI Event:

“Non-PAI Event” shall mean, effective for the 2028/2029 Delivery Year and subsequent Delivery Years, any intervals when a Demand Resource is dispatched or when Price Responsive Demand is required to respond and a Performance Assessment Interval is not in effect for such intervals for the same registration.

### Non-Curtailment Charge:

“Non-Curtailment Charge” shall mean the charge applicable to Demand Resources and Price Responsive Demand as defined in Tariff. Attachment DD, section 10B(b).

**RAA, Definitions:**

**Firm Service Level:**

"Firm Service Level" or "FSL" of Price Responsive Demand ~~for the 2022/2023 Delivery Year and subsequent Delivery Years~~ shall mean the level, determined at a PRD Substation level, to which Price Responsive Demand shall be reduced during the Delivery Year when ~~an Emergency Action that triggers a Performance Assessment Interval is declared and~~ the Locational Marginal Price exceeds the price associated with such Price Responsive Demand identified by the PRD Provider in its PRD Plan. "Firm Service Level" or "FSL" of Demand Resource shall mean the pre-determined level ~~for to~~ which an end-use customer's load shall be reduced, upon notification from the Curtailment Service Provider's market operations center or its agent.

**Price Responsive Demand:**

"Price Responsive Demand" or "PRD" shall mean end-use customer load registered by a PRD Provider pursuant to Reliability Assurance Agreement, Schedule 6.1 that have, as set forth in more detail in the PJM Manuals, the metering capability to record electricity consumption at an interval of one hour or less, Supervisory Control capable of curtailing such load (consistent with applicable RERRA requirements) at each PRD Substation identified in the relevant PRD Plan or PRD registration in response to ~~a Maximum Generation Emergency declared by the Office of the Interconnection (prior to 2022/Delivery Year) or~~ a Performance Assessment Interval that triggers a PRD performance assessment ~~(effective with 2022/2023 Delivery Year) or a Non-PAI-Event~~, and a retail rate structure, or equivalent contractual arrangement, capable of changing retail rates as frequently as an hourly basis, that is linked to or based upon changes in real-time Locational Marginal Prices at a PRD Substation level and that results in a predictable automated response to varying wholesale electricity prices.

**OATT– add new section to Attachment DD**

**10B CHARGES AND CREDITS FOR CURTAILMENT DURING NON-PAI EVENT**

(a) Effective with the 2028/2029 Delivery Year, the performance of Demand Resources and Price Responsive Demand with capacity commitments shall be measured for purposes of this assessment for all Non-PAI Events and as defined in the Tariff, Attachment DD and the Reliability Assurance Agreement, Schedules 6 and 6.1.

Expected performance of such committed Demand Resource or Price Responsive Demand, and the magnitude of any such shortfall, based on the following formula:

Performance Shortfall = Expected Curtailment - Actual Curtailment

Where Expected Curtailment is defined as:

Demand Resource committed capacity = the total megawatts of capacity committed without making any adjustment for the Forecast Pool Requirement for the registrations dispatched by the Office of the Interconnection

Price Responsive Demand committed capacity = the nominal PRD value of megawatts committed by the PRD Provider for the registrations required to respond based on the associated PRD Curves.

Actual Curtailment is defined as:

for each Demand Resource, the demand response provided to PJM by such resource during the Non-PAI Event, as established through the PJM demand response settlement procedure consistent with the standards specified in RAA, Schedule 6 and the PJM Manuals;

for each PRD Provider, the actual load reduction provided by the PRD Provider during a Non- PAI Event, determined in accordance with RAA, Schedule 6.1 and the PJM Manuals

(b) Subject to the Non-Performance Charge Limit specified in the Tariff, Attachment DD, section 10A(f-1), each Curtailment Service Provider and Price Responsive Demand provider shall be assessed a Non-Curtailment Charge for each committed Demand Resource and Price Responsive Demand that has a positive Performance Shortfall during a Non-PAI Event interval based on the following formula:

Non-Curtailment Charge = Performance Shortfall \* 50% \* Non-Performance Charge rate specified in Tariff, Attachment DD, section 10A(e)

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(c) Revenues collected from assessment of Non-Curtailment Charges shall be distributed to Curtailment Service Providers and/or Price Responsive Demand providers and/or Load Serving Entities for each interval.

Non-Curtailment Charges will be allocated to Curtailment Service Providers and PRD Providers that had a negative shortfall based on the minimum of (sum of negative shortfalls \* -1) / (sum of positive shortfalls), or 1 and then multiplied by Non-Curtailment Charges collected and then prorated to each provider based on such negative shortfalls. Any remaining Non-Curtailment Charges collected shall be distributed on a pro-rata basis to LSEs that were charged a Locational Reliability Charge on the Non-PAI Event day.

(d) The Office of the Interconnection shall invoice Non-Curtailment Charges and credits on the monthly bill issued within three calendar months after the calendar month that included such Non-PAI Event.

OATT Attachment DD 11A

11A DEMAND RESOURCES TEST FAILURE CHARGE

a) Capacity Market Sellers that commit Demand Resources may be charged to the extent their committed resources fail performance tests, as set forth herein.

b)

(i) [Reserved]

(ii) [Reserved]

(iii) [Reserved]

A. Through the 2023/2024 Delivery Years, for Annual Demand Resources: if an Annual Demand Resource registration is not dispatched by the Office of the Interconnection for a Load Management event in a Delivery Year, then the registration committed by a Capacity Market Seller in a zone shall be tested as described below in section iii(c), for a two-hour period between the hours of 11:00 EPT and 18:00 EPT of a non-NERC holiday weekday during June through October or November through March of the relevant Delivery Year, where date and time are selected by the Office of the Interconnection and notice is provided consistent with the procedure described below in section iii(d). If an Annual Demand Resource registration is dispatched by the Office of the Interconnection for a Load Management event during the Delivery Year, then no test will be required.

A-1. Effective with the 2024/2025 Delivery Year, for Annual Demand Resources: if an Annual Demand Resource registration is not dispatched by the Office of the Interconnection for a Load Management event in a Delivery Year and assessed for performance during (1) Performance Assessment Intervals and, (2) effective with the 2028/2029 Delivery Year and subsequent Delivery Years, Non-PAI Events, then the registration committed by a Capacity Market Seller in a zone shall be tested as described below in section iii(c), for a two-hour period between the hours of 11:00 EPT and 18:00 EPT of a non-NERC holiday weekday during June through October or November through March of the relevant Delivery Year, where date and time are selected by the Office of the Interconnection and notice is provided consistent with the procedure described below in section iii(d). If an Annual Demand Resource registration is dispatched by the Office of the Interconnection for a Load Management event during the Delivery Year and assessed for performance during Performance Assessment

Intervals or Non-PAI Events, then no test performance result will be utilized for the relevant Delivery Year. Notwithstanding the foregoing, through the 2027/2028 Delivery Year, a Capacity Market Seller may elect to utilize performance data from a Load Management event in the Delivery Year that was not assessed for performance during Performance Assessment Intervals to be considered in the annual Demand Resource test requirement, as long as the event is at least 30 minutes of a clock hour. ~~If an Annual Demand Resource registration is dispatched by the Office of the Interconnection for a Load Management event during the Delivery Year, and assessed for performance during Performance Assessment Intervals, then no test will be required.~~

B-1. Effective with the 2024/2025 Delivery Year, for Summer-Period Demand Resources: if a Summer Period Demand Resource registration is not dispatched and assessed for performance during Performance Assessment Intervals or Non-PAI Event intervals by the Office of the Interconnection for a Load Management event during June through October or the following May of the Delivery Year, then the registration committed by a Capacity Market Seller must demonstrate that it was tested as described below in section iii(c), for a two-hour period between the hours of 11:00 EPT and 18:00 EPT of a non-NERC holiday weekday, during June through October of the relevant Delivery Year, where date and time are selected by the Office of the Interconnection and notice is provided consistent with the procedure described below. If a Summer Period Demand Resource registration is dispatched by the Office of the Interconnection for a Load Management event during the summer period of such Delivery Year and assessed for performance during Performance Assessment Intervals or Non-PAI Events, then no test performance result will be utilized for the relevant Delivery Year. Notwithstanding the foregoing, through the 2027/2028 Delivery Year, a Capacity Market Seller may elect to utilize performance data from a Load Management event in the Delivery Year that was not assessed for performance during Performance Assessment Intervals to be considered in the annual Demand Resource test requirement, as long as the event is at least 30 minutes of a clock hour and the Load Management event occurred in the summer.

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## 8. CAPACITY RESOURCE DEFICIENCY CHARGE

8.2. Capacity Resource Deficiency Charge The Capacity Resource Deficiency Charge shall equal the Daily Deficiency Rate (as defined in Tariff, Attachment DD, section 7) multiplied by the megawatt quantity of deficiency below the level of capacity committed in such Capacity Market Seller's Sell Offer(s) or bilateral capacity commitments, or

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Locational UCAP Seller's Locational UCAP sale for each day such seller is deficient, provided, however, that a resource that is subject to a charge under this section that is also subject to a charge under Tariff, Attachment DD, section 10A hereof for a Performance Shortfall during one or more Performance Assessment Intervals or is subject to a charge under Tariff, Attachment DD, section 10B hereof for a Performance Shortfall during one or more non-PAI Events occurring during the period of resource deficiency addressed by this section shall be assessed a charge equal to the greater of the charge determined under this section and the charge determined under Tariff, Attachment DD, sections 10A or 10B, but shall not be assessed a charge under both this section and Tariff, Attachment DD, sections 10A or 10B for such simultaneous occurrence of a resource deficiency and Performance Shortfall **Performance Shortfall**. Provided further, effective with the 2026/2027 Delivery Year and for all subsequent Delivery Years, the Capacity Resource Deficiency Charge due to a reduction of a Capacity Resource's Accredited UCAP Factor between the Base Residual Auction and the start of the Delivery Year due to changes in ELCC Class Ratings or ELCC Resource Performance Adjustments shall be the weighted average Capacity Resource Clearing Price applicable to the Capacity Resource (for purposes of replacement capacity, including Locational UCAP transactions, the applicable Capacity Resource Clearing Price shall be the clearing price for the Locational Deliverability Area in which such resource is located) multiplied by the megawatt quantity of deficiency below the level of capacity committed in the relevant Delivery Year.

RAA Schedule 6 (and Tariff, Attachment DD-1) & 6.1

## **SCHEDULE 6**

### **PROCEDURES FOR DEMAND RESOURCES AND ENERGY EFFICIENCY**

A. Parties can partially or wholly offset the amounts payable for the Locational Reliability Charge with Demand Resources that are operated under the direction of the Office of the Interconnection. FRR Entities may reduce their capacity obligations with Demand Resources that are operated under the direction of the Office of the Interconnection and detailed in such entity's FRR Capacity Plan. Demand Resources qualifying under the criteria set forth below may be offered for sale or designated as Self-Supply in the Base Residual Auction, included in an FRR Capacity Plan, or offered for sale in any Incremental Auction, for any Delivery Year for which such resource qualifies. Qualified Demand Resources generally fall in one of two categories, i.e., Guaranteed Load Drop or Firm Service Level, as further specified in section G below and the PJM Manuals. Qualified Demand Resources may be provided by a Curtailment Service Provider, notwithstanding that such Curtailment Service Provider is not a Party to this Agreement. Such Curtailment Service Providers must satisfy the requirements hereof and the PJM Manuals.

1. A Party must formally notify, in accordance with the requirements of the PJM Manuals and section F hereof, as applicable, the Office of the Interconnection of the Demand Resource Registration that it is placing under the direction of the Office of the Interconnection. A Party must further notify the Office of the Interconnection whether the Demand Resource Registration is linked to a Summer-Period Demand Resource or an Annual Demand Resource.

2. A Demand Resource Registration must achieve its full load reduction within the following time period:

(a) For the 2015/2016 Delivery Year and subsequent Delivery Years, a Demand Resource Registration must be able to fully respond to a Load Management Event within 30 minutes of notification from the Office of the Interconnection. This default 30 minute prior notification shall apply unless a Curtailment Service Provider obtains an exception from the Office of the Interconnection due to physical operational limitations that prevent the Demand Resource Registration from reducing load within that

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timeframe. In such case, the Curtailment Service Provider shall submit a request for an exception to the 30 minute prior notification requirement to the Office of the Interconnection, at the time the Registration Form for that Demand Resource Registration is submitted in accordance with Tariff, Attachment K-Appendix. The only alternative notification times that the Office of Interconnection will permit, upon approval of an exception request, are 60 minutes and 120 minutes prior to a Load Management Event. The Curtailment Service Provider shall indicate in writing, in the appropriate application, that it seeks an exception to permit a prior notification time of 60 minutes or 120 minutes, and the reason(s) for the requested exception. A Curtailment Service Provider shall not submit a request for an exception to the default 30 minute notification period unless it has done its due diligence to confirm that the Demand Resource Registration is physically incapable of responding within that timeframe based on one or more of the reasons set forth below and as may be further defined in the PJM Manuals and has obtained detailed data and documentation to support this determination.

In order to establish that a Demand Resource Registration is reasonably expected to be physically unable to reduce load in that timeframe, the Curtailment Service Provider that submitted the Demand Resource Registration must demonstrate that:

- (i) The manufacturing processes for the Demand Resource Registration require gradual reduction to avoid damaging major industrial equipment used in the manufacturing process, or damage to the product generated or feedstock used in the manufacturing process;
- (ii) Transfer of load to back-up generation requires time-intensive manual process taking more than 30 minutes;
- (iii) On-site safety concerns prevent location from implementing reduction plan in less than 30 minutes; or,
- (iv) The Demand Resource Registration is comprised of mass market residential customers or Small Commercial Customers which collectively cannot be notified of a Load Management Event within a 30-minute timeframe due to unavoidable

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communications latency, in which case the requested notification time shall be no longer than 120 minutes.

The Office of the Interconnection may request data and documentation from the Curtailment Service Provider and such Curtailment Service Provider shall provide to the Office of the Interconnection within three (3) Business Days of a request therefor, a copy of all of the data and documentation supporting the exception request. Failure to provide a timely response to such request shall cause the exception to terminate the following Operating Day.

At its sole option and discretion, the Office of the Interconnection may review the data and documentation provided by the Curtailment Service Provider to determine if the Demand Resource Registration has met one or more of the criteria above. The Office of the Interconnection will notify the Curtailment Service Provider in writing of its determination by no later than ten (10) Business Days after receipt of the data and documentation.

The Curtailment Service Provider shall provide written notification to the Office of the Interconnection of a material change to the facts that supported its exception request within three (3) Business Days of becoming aware of such material change in facts, and, if the Office of Interconnection determines that the physical limitation criteria above are no longer being met, the Demand Resource Registration shall be subject to the default notification period of 30 minutes immediately upon such determination.

3. The initiation of load reduction, upon the request of the Office of the Interconnection, must be within the authority of the dispatchers of the Party. No additional approvals should be required.

4. The initiation of load reduction upon the request of the Office of the Interconnection is considered a pre-emergency or emergency action and must be implementable prior to a voltage reduction.

5. A Curtailment Service Provider intending to offer for sale or designate for self-supply, a Demand Resource in any RPM Auction, or intending to include a Demand Resource

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in any FRR Capacity Plan must demonstrate, to PJM's satisfaction, that such resource shall have the capability to provide a reduction in demand, or otherwise control load, on or before the start of the Delivery Year for which such resource is committed. As part of such demonstration, each such Curtailment Service Provider shall submit a Demand Resource Sell Offer Plan in accordance with the standards and procedures set forth in RAA, Schedule 6, section A-1; RAA, Schedule 8.1 (as to FRR Capacity Plans) and the PJM Manuals, no later than 30 days prior to, as applicable, the RPM Auction in which such resource is to be offered, or the deadline for submission of the FRR Capacity Plan in which such resource is to be included. PJM may verify the Curtailment Service Provider's adherence to the Demand Resource Sell Offer Plan at any time. A Curtailment Service Provider with a PJM-approved Demand Resource Sell Offer Plan will be permitted to offer up to the approved Demand Resource quantity into the subject RPM Auction or include such resource in its FRR Capacity Plan.

6. Selection of a Demand Resource in an RPM Auction results in commitment of capacity to the PJM Region. Demand Resources that are so committed must be linked to registrations participating in the Full Program Option or Capacity Only Option of the Emergency Load Response and Pre-Emergency Load Response Program and thus available for dispatch during PJM-declared pre-emergency events and emergency events.

A-1. A Demand Resource Sell Offer Plan shall consist of a completed template document in the form posted on the PJM website, requiring the information set forth below and in the PJM Manuals, and a Demand Resource Officer Certification Form signed by an officer of the Demand Resource Provider that is duly authorized to provide such a certification. The Demand Resource Sell Offer Plan must provide information that supports the Demand Resource Provider's intended Demand Resource Sell Offers and demonstrates that the Demand Resources are being offered with the intention that the MW quantity that clears the auction is reasonably expected to be physically delivered through Demand Resource registrations for the relevant Delivery Year. The Demand Resource Sell Offer Plan shall include all Existing Demand Resources and all Planned Demand Resources that the Demand Resource Provider intends to offer into an RPM Auction or include in an FRR Capacity Plan.

1. Demand Resource Sell Offer Plan Template. The Demand Resource Sell Offer Plan template, in the form provided on the PJM website, shall require the Demand Resource

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Provider to provide the following information and such other information as specified in the PJM Manuals:

(a) Summary Information. The completed template shall include the Demand Resource Provider's company name, contact information, and the Nominated DR Value in ICAP MWs by Zone/sub-Zone that the Demand Resource Provider intends to offer, stated separately for Existing Demand Resources and Planned Demand Resources. The total Nominated DR Value in MWs for each Zone/sub-Zone shall be the sum of the Nominated DR Value of Existing Demand Resources and the Nominated DR Value of Planned Demand Resources, and shall be the maximum MW amount the Provider intends to offer in the RPM Auction for the indicated Zone/sub-Zone, provided that nothing herein shall preclude the Demand Resource Provider from offering in the auction a lesser amount than the total Nominated DR Value shown in its Demand Resource Sell Offer Plan.

(b) Existing Demand Resources. The Demand Resource Provider shall identify all Existing Demand Resources by identifying end-use customer sites that are currently registered with PJM (even if not registered by such Demand Resource Provider) and that the Demand Resource Provider reasonably expects to have under a contract to reduce load based on PJM dispatch instructions by the start of the auction Delivery Year.

(c) Planned Demand Resources. The Demand Resource Provider shall provide the details of, and key assumptions underlying, the Planned Demand Resource quantities (i.e., all Demand Resource quantities in excess of Existing Demand Resource quantities) contained in the Demand Resource Sell Offer Plan, including:

(i) key program attributes and assumptions used to develop the Planned Demand Resource quantities, including, but not limited to, discussion of:

- method(s) of achieving load reduction at customer site(s);
- equipment to be controlled or installed at customer site(s), if any;
- plan and ability to acquire customers;
- types of customer targeted;

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- support of market potential and market share for the target customer base, with adjustments for Existing Demand Resource customers within this market and the potential for other Demand Resource Providers targeting the same customers; and
- assumptions regarding regulatory approval of program(s), if applicable.

(ii) Zone/sub-Zone information by end-use customer segment for all Nominated DR Values for which an end-use customer site is not identified, to include the number in each segment of end-use customers expected to be registered for the subject Delivery Year, the average Peak Load Contribution per end-use customer for such segment, and the average Nominated DR Value per customer for such segment. End-use customer segments may include residential, commercial, small industrial, medium industrial, and large industrial, as identified and defined in the PJM Manuals, provided that nothing herein or in the Manuals shall preclude the Provider from identifying more specific customer segments within the commercial and industrial categories, if known.

(iii) Information by end-use customer site to the extent required by subsection A-1(1)(c)(iv) or, if not required by such subsection, to the extent known at the time of the submittal of the Demand Resource Sell Offer Plan, to include: customer EDC account number (if known), customer name, customer premise address, Zone/sub-Zone in which the customer is located, end-use customer segment, current Peak Load Contribution value (or an estimate if actual value not known) and an estimate of expected Peak Load Contribution for the subject Delivery Year, and an estimated Nominated DR Value.

(iv) End-use customer site-specific information shall be required for any Zones or sub-Zones identified by PJM pursuant to this subsection for the portion, if any, of a Demand Resource Provider's intended offer in such Zones or sub-Zones that exceeds a Sell Offer threshold determined pursuant to this subsection, as any such excess quantity under such conditions should reflect Planned Demand Resources from end-use customer sites that the Provider has a high degree of certainty it will physically deliver for the subject Delivery Year. In accordance with the procedures in subsection A-1(3) below, PJM shall identify, as requiring site-specific information, all Zones and sub-Zones that comprise any LDA group (from a list of LDA groups stated in the PJM Manuals) in which [the quantity of cleared Demand Resources from the most

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recent Base Residual Auction] plus [the quantity of Demand Resources included in FRR Capacity Plans for the Delivery Year addressed by the most recent Base Residual Auction] in any Zone or sub-Zone of such LDA group exceeds the greater of:

- the maximum Demand Resources quantity registered with PJM for such Zone for any Delivery Year from the current (at time of plan submission) Delivery Year and the two preceding Delivery Years; and
- the potential Demand Resource quantity for such Zone estimated by PJM based on an independent published assessment of demand response potential that is reasonably applicable to such Zone, as identified in the PJM Manuals.

For each such Zone and sub-Zone, the Sell Offer threshold for each Demand Resource Provider shall be the higher of:

- the Demand Resource Provider's maximum Demand Resource quantity registered with PJM for such Zone/sub-Zone over the current Delivery Year (at the time of plan submission) and two preceding Delivery Years;
- the Demand Resource Provider's maximum for any single Delivery Year of [such provider's cleared Demand Resource quantity] plus [such provider's quantity of Demand Resources included in FRR Capacity Plans] from the three forward Delivery Years addressed by the three most recent Base Residual Auctions for such Zone/sub-Zone; and
- 10 MW.

(d) Schedule. The Demand Resource Provider shall provide an approximate timeline for procuring end-use customer sites as needed to physically deliver the total Nominated DR Value (for both Existing Demand Resources and Planned Demand Resources) by Zone/sub-Zone in the Demand Resource Sell Offer Plan. The Demand Resource Provider must specify the cumulative number of customers and the cumulative Nominated DR Value associated with each end-use customer segment

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within each Zone/sub-Zone that the Demand Resource Provider expects (at the time of plan submission) to have under contract as of June 1 each year between the time of the auction and the subject Delivery Year.

2. Demand Resource Officer Certification Form. Each Demand Resource Sell Offer Plan must include a Demand Resource Officer Certification, signed by an officer of the Demand Resource Provider that is duly authorized to provide such a certification, in the form shown in the PJM Manuals, which form shall include the following certifications:

(a) that the signing officer has reviewed the Demand Resource Sell Offer Plan and the information supplied to PJM in support of the Plan is true and correct as of the date of the certification;

(b) that the Sell Offer Plan does not include any Critical Natural Gas Infrastructure facilities, and

(c) that the Demand Resource Provider is submitting the Plan with the reasonable expectation, based upon its analyses as of the date of the certification, to physically deliver all megawatts that clear the RPM Auction through Demand Resource registrations by the specified Delivery Year.

As set forth in the form provided in the PJM Manuals, the certification shall specify that it does not in any way abridge, expand, or otherwise modify the current provisions of the PJM Tariff, Operating Agreement and/or RAA, or the Demand Resource Provider's rights and obligations thereunder, including the Demand Resource Provider's ability to adjust capacity obligations through participation in PJM incremental auctions and bilateral transactions.

3. Procedures. No later than December 1 prior to the Base Residual Auction for a Delivery Year, PJM shall post to the PJM website a list of Zones and sub-Zones, if any, for which end-use customer site-specific information shall be required under the conditions specified in subsection A-1(1)(c)(iv) above for all RPM Auctions conducted for such Delivery Year. Once so identified, a Zone or sub-Zone shall remain on the list for future Delivery Years until the threshold determined under subsection A-1(1)(c)(iv)

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above is not exceeded for three consecutive Delivery Years. No later than 30 days prior to the RPM Auction in which a Demand Resource Provider intends to offer a Demand Resource, the Demand Resource Provider shall submit to PJM a completed Demand Resource Sell Offer Plan template and a Demand Resource Officer Certification Form signed by a duly authorized officer of the Provider. PJM will review all submitted DR Sell Offer Plans. No later than 10 Business Days prior to the subject RPM Auction, PJM shall notify any Demand Resource Providers that have identified the same end-use customer site(s) in their respective DR Sell Offer Plans for the same Delivery Year. In such event, the MWs associated with such site(s) will not be approved for inclusion in a Sell Offer in an RPM Auction by any of the Demand Resource Providers, unless a Demand Resource Provider provides a letter of support from the end-use customer indicating that it is likely to execute a contract with that Demand Resource Provider for the relevant Delivery Year, or provides other comparable evidence of likely commitment. Such letter of support or other supporting evidence must be provided to PJM no later than 7 Business Days prior to the subject RPM Auction. If an end-use customer provides letters of support for the same site for the same Delivery Year to multiple Demand Resource Providers, the MWs associated with such end-use customer site shall not be approved as a Demand Resource for any of the Demand Resource Providers. No later than 5 Business Days prior to the subject RPM Auction, PJM will notify each Demand Resource Provider of the approved Demand Resource quantity, by Zone/sub-Zone, that such Demand Resource Provider is permitted to offer into such RPM Auction.

B. The Unforced Capacity value of a Demand Resource will be determined:

(1) for Delivery Years through the 2024/2025 Delivery Year, as the product of the Nominated Value of the Demand Resource times the Forecast Pool Requirement. Nominated Values shall be determined and reviewed in accordance with sections I and J, respectively, and the PJM Manuals.

(2) for the 2025/2026 Delivery Year and subsequent Delivery Years, in accordance with RAA, Schedule 9.2. Nominated Values shall be determined and reviewed in accordance with sections I and J, respectively, and the PJM Manuals.

C. Demand Resources offered and cleared in a Base Residual or Incremental Auction shall receive the corresponding Capacity Resource Clearing Price as

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determined in such auction, in accordance with Tariff, Attachment DD. For Delivery Years beginning with the Delivery Year that commences on June 1, 2013, any Demand Resources located in a Zone with multiple LDAs shall receive the Capacity Resource Clearing Price applicable to the location of such resource within such Zone, as identified in such resource's offer. Further, the Curtailment Service Provider shall register its resource in the same location within the Zone as specified in its cleared sell offer, and shall be subject to deficiency charges under Tariff, Attachment DD to the extent it fails to provide the resource in such location consistent with its cleared offer.

D. The Party, Electric Distributor, or Curtailment Service Provider that establishes a contractual relationship (by contract or tariff rate) with a customer for load reductions is entitled to receive the compensation specified in section C for a committed Demand Resource, notwithstanding that such provider is not the customer's energy supplier.

E. Any Party hereto shall demonstrate that its Demand Resources performed during periods when load management procedures were invoked by the Office of the Interconnection. The Office of the Interconnection shall adopt and maintain rules and procedures for verifying the performance of such resources, as set forth in section K hereof and the PJM Manuals. In addition, committed Demand Resources that do not comply with the directions of the Office of the Interconnection to reduce load during an emergency shall be subject to the penalty charge set forth in Tariff, Attachment DD.

F. Parties may elect to place Demand Resources associated with Behind The Meter Generation under the direction of the Office of the Interconnection for a Delivery Year by submitting a Sell Offer for such resource (as Self Supply, or with an offer price) in the Base Residual Auction for such Delivery Year. This election shall remain in effect for the entirety of such Delivery Year. In the event such an election is made, such Behind The Meter Generation will not be netted from load for the purposes of calculating the Daily Unforced Capacity Obligations under this Agreement.

G. PJM measures Demand Resource Registrations in the following ways:

Firm Service Level (FSL) – Load management achieved by an end-use customer reducing its load to a pre-determined level (the Firm Service Level), upon notification from the Curtailment Service Provider's market operations center or its agent.

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Guaranteed Load Drop (GLD) – Load management achieved by an end-use customer reducing its load by a pre-determined amount (the Guaranteed Load Drop), upon notification from the Curtailment Service Provider's market operations center or its agent. Typically, the load reduction is achieved through running customer-owned backup generators, or by shutting down process equipment.

H. Each Curtailment Service Provider must satisfy (or contract with another LSE, Curtailment Service Provider, or electric distribution company to provide) the following requirements:

- A point of contact with appropriate backup to ensure single call notification from PJM and timely execution of the notification process;
- Supplemental status reports, detailing Demand Resources available, as requested by PJM;
- Entry of customer-specific Demand Resource Registration information, for planning and verification purposes, into the designated PJM electronic system.
- Customer-specific compliance and verification information for each PJM-initiated Demand Resource event or test event, as well as aggregated Provider load drop data for Provider-initiated events, in accordance with established reporting guidelines.
- Load drop estimates for all Load Management events and test events, prepared in accordance with the PJM Manuals.

I. The Nominated Values (summer or winter) for each Demand Resource Registration shall be determined consistent with the process described below.

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The summer Nominated Value for Firm Service Level customer(s) on a registration will be based on the peak load contribution for the customer(s), as typically determined by the 5CP methodology utilized by the electric distribution company to determine ICAP obligation values. The summer Nominated Value for a registration shall equal the total peak load contribution for the customers on the registration minus the summer Firm Service Level multiplied by the loss factor. The winter Nominated Value for Firm Service Level customer(s) on a registration shall equal the total Winter Peak Load for customers on the registration multiplied by Zonal Winter Weather Adjustment Factor minus winter Firm Service level and then the result is multiplied by the loss factor.

The summer Nominated Value for a Guaranteed Load Drop customer on a registration shall equal the summer guaranteed load drop amount, adjusted for system losses and shall not exceed the customer's Peak Load Contribution, as established by the customer's contract with the Curtailment Service Provider. The winter Nominated Value for a Guaranteed Load Drop customer on a registration shall be the winter guaranteed load drop amount, adjusted for system losses, and shall not exceed the customer's Winter Peak Load multiplied by Zonal Winter Weather Adjustment Factor multiplied by the loss factor, as established by the customer's contract with the Curtailment Service Provider.

Customer-specific Demand Resource Registration information (EDC account number, peak load contribution, Winter Peak Load, notification period, etc.) will be entered into the designated PJM electronic system to establish nominated values. Each Demand Resource Registration should be linked to a Demand Resource. Additional data may be required, as defined in sections J and K and the PJM Manuals.

J. Nominated Values shall be reviewed based on documentation of customer-specific data and Demand Resource Registration information, to verify the amount of load management available and to set a summer or winter, Nominated Value. Data is provided by both the zone EDC and the Curtailment Service Provider in the designated PJM electronic system, and must include the EDC meter number or other unique customer identifier, Peak Load Contribution (5CP), Winter Peak Load, contract firm service level or guaranteed load drop values, applicable loss factor, zone/area location of the load drop, number of active participants, etc. Such data must be uploaded and approved prior to the first day of the Delivery Year for which

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such Demand Resource Registration is effective. Curtailment Service Providers must provide this information concurrently to host EDCs.

For Firm Service Level and Guaranteed Load Drop customers, the 5CP values, for the zone and affected customers, will be adjusted to reflect an "unrestricted" peak for a zone, based on information provided by the Curtailment Service Provider. Load drop levels shall be estimated in accordance with guidelines in the PJM Manuals.

The daily Nominated Value of a Demand Resource with a Capacity Performance commitment (which may consist of an Annual Demand Resource with a Capacity Performance commitment and/or Summer Period Demand Resource with a Capacity Performance commitment) shall equal the sum of the summer Nominated Values of the registrations linked to such Demand Resource for the summer period of June through October and May of the Delivery Year, and shall equal the lesser of (i) the sum of the summer Nominated Values of the registrations linked to such Demand Resource or (ii) the sum of the winter Nominated Values of the registrations linked to such Demand Resource for the non-summer period of November through April of the Delivery Year.

K. Compliance is the process utilized to review Provider performance during PJM-initiated Load Management events and tests. Compliance will be established for each Provider on an event specific basis for the Curtailment Service Provider's Demand Resource Registrations dispatched by the Office of the Interconnection during such event. PJM will establish and communicate reasonable deadlines for the timely submittal of event data to expedite compliance reviews. Compliance reviews will be completed as soon after the event as possible, with the expectation that reviews of a single event will be completed within two months of the end of the month in which the event took place. Curtailment Service Providers are responsible for the submittal of compliance information to PJM for each PJM-initiated event and test during the compliance period.

Compliance is measured for Market Participant Bonus Performance, as applicable, Non-Performance Charges [and Non-Curtailment Charges](#). Non-Performance Charges [and Non-Curtailment Charges](#) are assessed for the defined obligation period of each Demand Resource as defined in RAA, Article 1, subject to the following requirements:

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Compliance is checked on an individual customer basis for Firm Service Level, by comparing actual load during the event to the firm service level. Current load for a statistical sample of end-use customers may be used for compliance for residential non-interval metered registrations in accordance with the PJM Manuals and subject to PJM approval. Curtailment Service Providers must submit actual customer load levels (for the event period) for the compliance report. Compliance for FSL will be based on:

Summer (June through October and the following May of a Delivery Year)- End use customer's current Delivery Year peak load contribution ("PLC") minus the metered load ("Load") multiplied by the loss factor ("LF"). The calculation is represented by:

$$(PLC) - (Load * LF)$$

Winter (November through April of a Delivery Year)- End use customer's Winter Peak Load ("WPL") multiplied by Zonal Winter Weather Adjustment Factor ("ZWWAF") multiplied by LF, minus the metered load ("Load") multiplied by the LF. The calculation is represented by:

$$(WPL * ZWWAF * LF) - (Load * LF)$$

Compliance is checked on an individual customer basis for Guaranteed Load Drop. Current load for a statistical sample of end-use customers may be used for compliance for residential non-interval metered registrations in accordance with the PJM Manuals and subject to PJM approval. Guaranteed Load Drop compliance will be based on:

(i) the lesser of (a) comparison load used to best represent what the load would have been if PJM did not declare a Load Management Event or the CSP did not initiate a test as outlined in the PJM Manuals, minus the Load and then multiplied by the LF, or (b) For a summer event, the PLC minus the Load multiplied by the LF. A summer load reduction will only be recognized for capacity compliance if the Load multiplied by the LF is less than the PLC. For a non-summer event, the WPL multiplied

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the ZWWAF multiplied by LF, minus the Load multiplied by the LF. A non-summer load reduction will only be recognized for capacity compliance if the Load multiplied by the LF is less than the WPL multiplied by the ZWWAF multiplied by LF.

(ii) Curtailment Service Providers must submit actual loads and comparison loads for all hours during the day of the Load Management Event or the Load Management performance test, and for all hours during any other days as required by the Office of the Interconnection to calculate the load reduction. Comparison loads must be developed from the guidelines in the PJM Manuals, and note which method was employed.

(iii) Methodologies for establishing comparison load for Guaranteed Load Drop end-use customers are described in greater detail in Manual M-19, PJM Manual for Load Forecasting and Analysis, at Attachment A: Load Drop Estimate Guidelines.

Load reduction compliance is determined on an hourly basis for a Demand Resource Registration linked to an Annual Demand Resource with a Capacity Performance commitment, for each FSL and GLD customer dispatched by the Office of the Interconnection for at least 30 minutes of the clock hour (i.e., "partial dispatch compliance hour"). Curtailment Service Provider may submit 1 minute load data for use in capacity compliance calculations for partial dispatch compliance hours subject to PJM approval and in accordance with the PJM Manuals where: (a) metering meets all Tariff and Manual requirements, (b) 1 minute load data shall be submitted to PJM for all locations on the registration, and (c) 1 minute load data measures energy consumption over the minute. The registered capacity commitment for a Demand Resource Registration with a Capacity Performance commitment is not prorated based on the number of minutes dispatched during the clock hours. The actual hourly load reduction for the hour ending that includes a Performance Assessment Interval(s) [and/or Non-PAI Event interval\(s\)](#) is flat-profiled over the set of dispatch intervals in the hour in accordance with the PJM Manuals.

A Demand Resource Registration may not reduce their load below zero (i.e., export energy into the system). No compliance credit will be given for an incremental load drop below zero.

For a Performance Assessment Interval [or Non-PAI Event interval](#), compliance will be totaled over all dispatched registrations for FSL and GLD customers linked to a Provider's Annual Demand Resource with a Capacity Performance commitment to

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determine the Actual Performance for such Demand Resource in accordance with Tariff, Attachment DD, sections [10A](#) and [10B](#), and PJM Manuals. The Expected Performance for such Demand Resource shall be equal to the Provider's committed capacity on the Demand Resource, adjusted to account for any linked registrations that were not dispatched by PJM. A Provider's Demand Resources' initial Performance Shortfalls shall be netted for all the seller's Demand Resources in the Emergency Action Area to determine a net Emergency Action Area Performance Shortfall which is then allocated to the Capacity Market Seller's Demand Resources in accordance with Tariff, Attachment DD, sections [10A](#) and [10B](#), and PJM Manuals.

### **SCHEDULE 6.1**

#### **PRICE RESPONSIVE DEMAND**

A. As more fully set forth in this Schedule 6.1 and the PJM Manuals, for any Delivery Year beginning on or after June 1, 2015 (subject to a transition plan, as set forth below), any PRD Provider, including any FRR Entity, may commit that certain loads identified by such PRD Provider shall not exceed a specified demand level ~~at specified prices during Maximum Generation Emergencies for the 2020/2021 and 2021/2022 Delivery Years or~~ at specified prices during a Performance Assessment Interval ~~for the 2022/2023 Delivery Year and subsequent Delivery Years, or Non-PAI~~ Event interval as a consequence of the implementation of Price Responsive Demand. Based on

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information provided by the PRD Provider in a PRD Plan (and, to the extent such plan identifies a PRD Reservation Price, based on the clearing price in the Base Residual Auction or Third Incremental Auction, as applicable), the Office of the Interconnection shall determine the Nominal PRD Value for the specified loads identified by such PRD Provider by Zone (or sub-Zonal LDA, if applicable). The Office of the Interconnection shall adjust the PJM Region Reliability Requirement and LDA Reliability Requirements, as applicable, to reflect committed PRD. Actual PRD reductions in response to price shall be added back in determining peak load contributions as set forth in the PJM Manuals. Any PRD Provider that fails to fully honor its PRD commitments for a Delivery Year shall be assessed compliance charges.

B. End-use customer loads identified in a PRD Plan or PRD registration for a Delivery Year as Price Responsive Demand may not, for such Delivery Year, (i) be registered as Economic Load Response, Pre-Emergency Load Response or Emergency Load Response; (ii) be used as the basis of any Demand Resource Sell Offer or Energy Efficiency Resource Sell Offer in any RPM Auction; (iii) be identified in a PRD Plan or PRD registration of any other PRD Provider; or (iv) include Critical Natural Gas Infrastructure.

C. Any PRD Provider seeking to commit PRD hereunder for a Delivery Year must submit to the Office of the Interconnection a PRD Plan identifying and supporting the Nominal PRD Value (for the 2020/2021 and 2021/2022 Delivery Years, calculated as the difference between the PRD Provider's Zonal Expected Peak Load Value of PRD and the Maximum Emergency Service Level of Price Responsive Demand or for the 2022/2023 Delivery Year and subsequent Delivery Years, calculated as the peak load contribution minus Firm Service Level times loss factor for each Zone (or sub-Zonal LDA, if applicable) for which such PRD is committed; such information shall be provided on a PRD Substation level to the extent available at the time the PRD Plan is submitted. Such plan must be submitted no later than (a) March 17, 2019 for the Base Residual Auction for the 2022/2023 Delivery Year or (b) the January 15 that last precedes the Base Residual Auction for the 2023/2024 and subsequent Delivery Years for which such PRD is committed; any submitted plan that does not contain, by such applicable deadline, all information required hereunder shall be rejected. A PRD Provider may submit a PRD Plan, or a modified PRD Plan, by the January 15 last preceding the Third Incremental Auction for such Delivery Year requesting approval of additional Price Responsive Demand but only in the event, and to the extent, that the final peak load forecast for the relevant LDA for such Delivery Year exceeds the preliminary peak load forecast for such LDA and Delivery Year. Notwithstanding the foregoing, any PRD Plan submitted and approved for the 2022/2023 Delivery Year may be withdrawn or modified no later than 30 days prior to the commencement of the Base Residual Auction. The Office of the Interconnection shall revise such requests (as

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adjusted, to the extent a PRD Reservation Price is specified, for the results of the Third Incremental Auction) for additional Price Responsive Demand downward, in accordance with rules in the PJM Manuals, if the submitted requests (as adjusted) in the aggregate exceed the increase in the load forecast in the LDA modeled. The Office of the Interconnection shall advise the PRD Provider, following the Third Incremental Auction, of its acceptance of, or any downward adjustment to, the Nominal PRD Value based on its review of the PRD Plan and the results of the auction. Approval of the PRD Plan by the Office of the Interconnection shall establish a firm commitment by the PRD Provider to the specified Nominal PRD Value of Price Responsive Demand at each Zone (or sub-Zonal LDA, if applicable) during the relevant Delivery Year (subject to any PRD Reservation Price), and may not be uncommitted or replaced by any Capacity Resource. Although the PRD Plan may include reasonably supported forecasts and expectations concerning the development of Price Responsive Demand for a Delivery Year, the PRD Provider's commitment to a Nominal PRD Value for such Delivery Year shall not depend or be conditioned upon realization of such forecasts or expectations.

D. All submitted PRD Plans must comply with the requirements and criteria in the PJM Manuals for such plans, including assumptions and standards specified in the PJM Manuals for estimates of expected load levels (prior to 2022/2023 Delivery Year) and estimates of peak load contribution (for the 2022/2023 Delivery Year and subsequent Delivery Years) as described in paragraph C. The PRD Plan shall explain and justify the methods used to determine the Nominal PRD Value. All assumptions and relevant variables affecting the Nominal PRD Value must be clearly stated. The PRD Plan must include sufficient data to allow a third party to audit the procedures and verify the Nominal PRD Value. Any non-compliance with a Nominal PRD Value for a prior Delivery Year shall be identified and taken into account. In addition, each submitted PRD Plan must include:

- (i) documentation, in the form specified in the PJM Manuals, that the PRD Provider has in place contractual arrangements with the relevant end-use customers establishing a time-varying retail rate structure that conforms to any RERRA requirements, and adheres to PRD implementation standards specified in the PJM Manuals; in such cases, the PRD Provider shall provide the Office of the Interconnection copies of its applicable contracts with end-use customers (including any proposed contracts) within ten Business Days after a request for such contracts, or its PRD Plan shall be rejected;
- (ii) prior to the 2022/2023 Delivery Year the expected peak load value that would apply, absent load reductions in response to price, to the end-use customer loads at a PRD Substation level, including applicable peak-load contribution data for such customers, to the extent available and otherwise at a Zonal (or sub-Zonal LDA if applicable) level. For the 2022/2023 Delivery Year and subsequent Delivery Years, estimates of Peak Load

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Contribution at a PRD Substation level, to the extent available and otherwise at a Zonal (or sub-Zonal LDA if applicable) level;

(iii) the Maximum Emergency Service Level (prior to the 2022/2023 Delivery Year) or Firm Service Levels (for the 2022/2023 Delivery Year and subsequent Delivery Years) of the identified load given the load's price-responsive characteristics, at a PRD Substation level if available and otherwise at a Zonal (or sub-Zonal LDA if applicable) level;

(iv) Price-consumption curves ("PRD Curves") at a PRD Substation level if available and otherwise at a Zonal (or sub-Zonal LDA if applicable) level that detail the base consumption level of the identified loads; and the decreasing consumption levels at increasing prices, provided that all identified load reductions must be capable of full implementation within 15 minutes of declaration of a Maximum Generation Emergency (prior to 2022/2023 Delivery Year) or Performance Assessment Interval ~~(for the 2022/2023 Delivery Year and subsequent Delivery Years)~~ or Non-PAI Event interval by the Office of the Interconnection, and provided further that the specified prices may not exceed the maximum energy offer price cap under the PJM Tariff and Operating Agreement;

(v) the estimated Nominal PRD Value of the Price Responsive Demand at a PRD Substation level if available and otherwise at a Zonal (or sub-Zonal LDA if applicable) level;

(vi) specifications of equipment used to satisfy the advanced metering and Supervisory Control criteria for eligible Price Responsive Demand, including a timeline and milestones demonstrating that such equipment shall be available and operational for the start of the relevant Delivery Year. Such equipment shall comply with applicable RERRA requirements and shall be designed to meet all PRD requirements, including, without limitation, meter reading requirements and Supervisory Control requirements, specified in the PJM Manuals. The PRD Provider shall demonstrate in the PRD Plan that the Supervisory Control equipment enables an automated load response by Price Responsive Demand to the price trigger; provided, however, that the PRD Provider may request in the PRD Plan an exception to the automation requirement for any individual registered end-use customer that is located at a single site and that has Supervisory Control over processes by which load reduction would be accomplished; and provided further that nothing herein relieves such end-use customer of the obligation to respond within 15 minutes to declaration of ~~a Maximum Generation Emergency (prior to 2022/2023 Delivery Year)~~ or a Performance Assessment Interval ~~(for the 2022/2023 Delivery Year and subsequent Delivery Years)~~ or Non-PAI Event interval in accordance with applicable PRD Curves. In addition to the above requirements and those in the PJM Manuals for metering equipment and

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associated data, metering equipment shall provide integrated hourly kWh values on an electric distribution company account basis and shall either meet the electric distribution company requirements for accuracy or have a maximum error of two percent over the full range of the metering equipment (including potential transformers and current transformers). The installed metering equipment must be that used for retail electric service; or metering equipment owned by the end-use customer or PRD Provider that is approved by PJM and either read electronically by PJM or read by the customer or PRD Provider and forwarded to PJM, in either case in accordance with requirements set forth in the PJM Manuals; and

(vii) any RPM Auction clearing price below which the PRD Provider does not choose to commit PRD ("PRD Reservation Price"), specifying the relevant auction, Zone (or sub-Zonal LDA if applicable), and, if applicable, a range of up to ten pairs of PRD commitment levels and associated minimum RPM Auction clearing prices; provided however that the Office of the Interconnection may interpolate PRD commitment levels based on clearing prices between prices specified by the PRD Provider.

E. Each PRD Provider that commits Price Responsive Demand through an accepted PRD Plan must, no later than one day before the tenth Business Day prior to the start of the Delivery Year for which such PRD is committed, register with PJM, in the form and manner specified in the PJM Manuals, sufficient PRD-eligible load at a PRD Substation level to satisfy its Nominal PRD Value commitment. All information required in the PRD Plan to be at a PRD Substation level if available at the time of submission of the PRD Plan that was not provided at the time of submission of such plan must be provided with the registration. The PRD Provider shall also identify in the registration each individual end-use customer with a peak load contribution of 10 kW or greater included in such Price Responsive Demand, the peak load contribution, Maximum Emergency Service Level (prior to the 2022/2023 Delivery Year), and Firm Service Levels (for the 2022/2023 Delivery Year and subsequent Delivery Years) for such customers. PJM shall provide notification of such PRD registrations to the applicable electric distribution company(ies). The PRD Provider shall maintain, and provide to the Office of the Interconnection upon request, an identification of all individual end-use customers with a peak load contribution of less than 10kW included in such Price Responsive Demand, and the peak load contribution, Maximum Emergency Service Level (prior to the 2022/2023 Delivery Year), and Firm Service Levels (for the 2022/2023 Delivery Year and subsequent Delivery Years) of such customers. The PRD Provider must maintain its PRD Substation-level registration of PRD-eligible load at the level of its Zonal (or sub-zonal LDA, if applicable) Nominal PRD Value commitment

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during each day of the Delivery Year for which such commitment was made. The PRD Provider may change the end-use customer registered to meet the PRD Provider's commitment during the Delivery Year, but such PRD Provider must always in the aggregate register sufficient Price Responsive Demand to meet or exceed the Zonal (or sub-Zonal LDA, if applicable) committed Nominal PRD Value level. A PRD Provider must timely notify the Office of the Interconnection, in accordance with the PJM Manuals, of all changes in PRD registrations. Such notification must remove from the PRD Provider's registration(s) any end-use customer load that no longer meets the eligibility criteria for PRD, effective as of the first day that such end-use customer load is no longer PRD-eligible.

F. Each PRD Provider shall be required to identify its committed Price Responsive Demand as price-sensitive demand at a PRD Substation level in the Real-Time Energy Market. The most recent PRD Curve submitted by the PRD Provider in its PRD Plan or PRD registration shall be used for such purpose unless and until changed by the PRD Provider in accordance with the market rules of the Office of the Interconnection, provided that any changes to PRD Curves must be consistent with the PRD Provider's commitment of Price Responsive Demand hereunder.

G. The PRD Provider shall receive a Price Responsive Demand Credit for such registrations during the Delivery Year, in such Zone for such day, determined as follows:

PRD Credit = [( Share of Zonal Nominal PRD Value committed in Base Residual Auction \* (FZWNSP/FZPLDY) \* Final Zonal RPM Scaling Factor \* FPR \* Final Zonal Capacity Price) + (Share of Zonal Nominal PRD Value committed in Third Incremental Auction \* (FZWNSP/FZPLDY) \* Final Zonal RPM Scaling Factor \* FPR \* Final Zonal Capacity Price \* Third Incremental Auction Component of Final Zonal Capacity Price stated as a Percentage)].

For the 2022/2023 Delivery Year and subsequent Delivery Years, the factor equal to FZWNSP/FZPLDY is eliminated in the calculation of the LSE PRD Credit

Where:

Share of Zonal Nominal PRD Value Committed in Base Residual Auction =  
Nominal PRD Value for such registration/Total Zonal Nominal PRD Value of all Price Responsive Demand registered by the PRD Provider of such registration \*Zonal Nominal PRD Value committed in the Base Residual Auction by the PRD Provider of such registration .

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Share of Zonal Nominal PRD Value Committed in Third Incremental Auction =  
Nominal PRD Value for such registration/Total Zonal Nominal PRD Value of all Price Responsive Demand registered by the PRD Provider of such registration \*Zonal Nominal PRD Value committed in the Third Incremental Auction by the PRD Provider of such registration.

FZPLDY = Final Zonal Peak Load Forecast for such Delivery Year; and

FZWNSP = Zonal Weather-Normalized Peak Load for the summer concluding prior to the commencement of such Delivery Year;

And where the PRD registration is associated with a sub-Zone, the Share of the Nominal PRD Value Committed in Base Residual Auction or Third Incremental Auction will be based on the Nominal PRD Values committed and registered in a sub-Zone. A PRD Provider will receive a PRD Credit for each approved Price Responsive Demand registration that is effective on a given day. The total daily credit to a PRD Provider in a Zone shall be the sum of the credits received as a result of all approved registrations in the Zone on a given day.

H. A PRD Provider may transfer all or part of its PRD commitment for a Delivery Year in a Zone (or sub-Zonal LDA) to another PRD Provider for its use in the same Zone or sub-Zonal LDA, through notice of such transfer provided by both the transferor and transferee PRD Providers to the Office of the Interconnection in the form and manner specified in the PJM Manuals. From and after the effective date of such transfer, and to the extent of such transfer, the transferor PRD Provider shall be relieved of its PRD commitment and credit requirements, shall not be liable for PRD compliance charges, and shall not be entitled to a Price Responsive Demand Credit; and the transferee PRD Provider, to the extent of such transfer, shall assume such PRD commitment, credit requirements, obligation for compliance charges and shall be entitled to a Price Responsive Demand Credit.

I. Any PRD Provider that commits Price Responsive Demand and does not register and maintain registration of sufficient PRD-eligible load, (including, without limitation, failing to install or maintain the required advanced metering or Supervisory Control facilities) in a Zone (or sub-Zonal LDA, if applicable) to satisfy in full its Nominal PRD Value commitment in such Zone (or sub-Zonal LDA) on each day of the Delivery Year for which such commitment is made shall be assessed a compliance charge for each day that the registered Price Responsive Demand is less than the committed Nominal PRD Value. Such daily penalty shall equal:

$[\text{MW Shortfall}] * [\text{Forecast Pool Requirement}] * [(\text{Weighted Final Zonal Capacity Price in } \$/\text{MW-day})]$

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+ higher of (0.2 \* Weighted Final Zonal Capacity Price) or (\$20/MW-day)]

Where: MW Shortfall = Daily Nominal PRD Value committed in such PRD Provider's PRD Plan (including any permitted amendment to such plan) for the relevant Zone or sub-Zonal LDA – Daily Nominal PRD Value as a result of PRD registration for such Zone or sub-Zonal LDA; and

Weighted Final Zonal Capacity Price is the average of the Final Zonal Capacity Price and the price component of the Final Zonal Capacity Price attributable to the Third Incremental Auction, weighted by the Nominal PRD Values committed by such PRD Provider in connection with the Base Residual Auction and those committed by such PRD Provider in connection with the Third Incremental Auction.

The MW Shortfall shall not be reduced through replacement of the Price Responsive Demand by any Capacity Resource or Excess Commitment Credits, provided, however, that the PRD Provider may register additional PRD-eligible end-use customer load to satisfy its PRD commitment.

J. PRD Providers shall be responsible for verifying the performance of their PRD loads during each ~~maximum emergency event (prior to the 2022/2023 Delivery Year) and Performance Assessment Interval (for the 2022/2023 Delivery Year and subsequent Delivery Years)~~ or Non-PAI Event interval declared by the Office of the Interconnection. PRD Providers shall demonstrate that the identified PRD loads performed in accordance with the PRD Curves submitted at a PRD Substation level in the PRD Plan or PRD registration; provided, however, prior to the 2022/2023 Delivery Year, the previously submitted Maximum Emergency Service Level ("MESL") value shall be adjusted by a ratio equal to the amount by which the actual Zonal load during the declared event exceeded the PJM load forecast underlying the previously submitted MESL value. In accordance with procedures and deadlines specified in the PJM Manuals, the PRD Providers must submit actual customer load levels for all hours during the declared event and all other information reasonably required by the Office of the Interconnection to verify performance of the committed PRD loads.

K. Prior to the 2022/2023 Delivery Year, if the identified loads submitted for a Zone (or sub-Zonal LDA) by a PRD Provider exceed during any Emergency the aggregate MESL specified in all PRD registrations of such PRD Provider that have a PRD Curve specifying a price at or below the highest Real-time LMP recorded during such Emergency, the PRD Provider that committed such loads as Price Responsive Demand shall be assessed a compliance charge hereunder. The charge shall be based on the net performance during an Emergency of the loads that were identified as Price Responsive Demand for such Delivery Year in the PRD registrations submitted by such PRD Provider in each Zone (or sub-Zonal LDA, if applicable) and that specified a price

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at the MESL that is at or below the highest Real-Time LMP recorded during such Emergency. The compliance charge hereunder shall equal:

$[\text{MW Shortfall}] * [\text{Forecast Pool Requirement}] * [(\text{Weighted Final Zonal Capacity Price in } \$/\text{MW-day})$

$+ \text{higher of } (0.2 * \text{Final Zonal Capacity Price}) \text{ or } (\$20/\text{MW-day})] * 365 \text{ days}$

Where: MW Shortfall = [highest hourly integrated aggregate metered load for such PRD Provider's PRD load in the Zone or sub-Zonal LDA meeting the price condition specified above] – {(aggregate MESL for the Zone or sub-Zonal LDA) \* the higher of [1.0] or [(actual Zonal load – actual total PRD load in Zone) / (Final Zonal Peak Load Forecast – final Zonal Expected Peak Load Value of PRD in total for all PRD load in Zone meeting the price condition specified above)]}.

For purposes of the above provision, the MW Shortfall for any portion of the Emergency event that is less than a full clock hour shall be treated as a shortfall for a full clock hour unless either: (i) the load was reduced to the adjusted MESL level within 15 minutes of the emergency procedures notification, regardless of the response rate submitted, or (ii) the hourly integrated value of the load was at or below the adjusted MESL. Such MW shortfall shall not be reduced through replacement of the Price Responsive Demand by any Capacity Resource or Excess Commitment Credits; provided, however, that the performance and MW Shortfalls of all PRD-eligible load registered by the PRD Provider, including any additional or replacement load registered by such PRD Provider, provided that it meets the price condition specified above, shall be reflected in the calculation of the overall MW Shortfall. Any greater MW Shortfall during a subsequent Emergency for such Zone or sub-Zonal LDA during the same Delivery Year shall result in a further charge hereunder, limited to the additional increment of MW Shortfall. As appropriate, the MW Shortfall for non-compliance during an Emergency shall be adjusted downward to the extent such PRD Provider also was assessed a compliance penalty for failure to register sufficient PRD to satisfy its PRD commitment.

L. PRD Providers that register Price Responsive Demand shall be subject to test at least once per year to demonstrate the ability of the registered Price Responsive Demand to reduce to the specified Maximum Emergency Service Level prior to the 2022/2023 Delivery Year or the Firm Service Level for the 2022/2023 Delivery Year and subsequent Delivery Years, and such PRD Providers shall be assessed a compliance charge to the extent of failure by the registered Price Responsive Demand during such test to reduce to the relevant service level, in accordance with the following:

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(i)

(a) Prior to the 2022/2023 Delivery Year, if the Office of the Interconnection does not declare during the relevant Delivery Year a Maximum Generation Emergency that requires the registered PRD to reduce to the Maximum Emergency Service Level then such registered PRD must demonstrate that it was tested for a one-hour period during any hour when a Maximum Generation Emergency may be called during June through October or the following May of the relevant Delivery Year. If a Maximum Generation Emergency that requires the registered PRD to reduce to the Maximum Emergency Service Level is called during the relevant Delivery Year, then no compliance charges will be assessed hereunder.

(b) For the 2022/2023 Delivery Year, if the Office of the Interconnection does not declare an Emergency Action triggering a Performance Assessment Interval during the relevant Delivery Year or is not measured for compliance at a Performance Assessment Interval, then such registered PRD must demonstrate that it was tested for a one hour period between 10:00 AM EPT to 10:00 PM EPT during June through October or the following May of the relevant Delivery Year. If a PRD registration is measured for compliance for a Performance Assessment Interval in a Delivery Year, then no PRD Test Failure Charges will be assessed for such PRD registration.

(c) ~~For the 2023/2024 Delivery Year and subsequent Delivery Years,~~ if the registered PRD is not required to reduce the load for a Performance Assessment Interval or Non-PAI Event interval during the relevant Delivery Year, then such registered PRD shall test for a two hour period between 11:00 EPT to 18:00 EPT on a weekday that is a non-NERC holiday during the relevant Delivery Year and in accordance with the following provisions. The Office of Interconnection shall schedule, on an alternating basis, one test during June through October or November through March for each Delivery Year that a test is required. The date and time of such test shall be selected by the Office of the Interconnection and notice of such test shall be provided to the PRD Provider in accordance with the procedure described in this section L.ii(b). If a PRD registration is measured for compliance for a Performance Assessment Interval or Non-PAI Event interval in a Delivery Year, then no PRD Test Failure Charges will be assessed for such PRD registration.

(ii)

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(a) Prior to the 2023/2024 Delivery Year, all PRD registered in a Zone must be tested simultaneously except that, when less than 25 percent (by megawatts) of a PRD Provider's total PRD registered in a Zone fails a test, the PRD Provider may conduct a re-test limited to all registered PRD that failed the prior test, provided that such re-test must be at the same time of day and under approximately the same weather conditions as the prior test, and provided further that all affiliated registered PRD must test simultaneously, where affiliated means registered PRD that has any ability to shift load and that is owned or controlled by the same entity. If less than 25 percent of a PRD Provider's total PRD registered in a Zone fails the test and the PRD Provider chooses to conduct a retest, the PRD Provider may elect to maintain the performance compliance result for registered PRD achieved during the test if the PRD Provider: (1) notifies the Office of the Interconnection 48 hours prior to the re-test under this election; and (2) the PRD Provider retests affiliated registered PRD under this election as set forth in the PJM Manuals.

(b) For the 2023/2024 Delivery Year and subsequent Delivery Years, all PRD registered in a zone will be tested simultaneously for two hours. The Office of the Interconnection may, at its discretion, cancel a test and retest to ensure system reliability.

If less than 25 percent (by megawatts) of a PRD Provider's total PRD registered in a Zone fails a test, the PRD Provider may conduct re-tests limited to all registered PRD that failed the prior test, provided that such re-test must be at the same time of day and under approximately the same weather conditions as the prior test, and provided further that all affiliated registered PRD must test simultaneously, where affiliated means registered PRD that has any ability to shift load and that is owned or controlled by the same entity. The PRD Provider may elect to maintain the performance compliance result for registered PRD achieved during the test if the PRD Provider: (1) notifies the Office of the Interconnection 48 hours prior to the re-test under this election; and (2) the PRD Provider retests affiliated registered PRD under this election as set forth in the PJM Manuals.

If 25 percent or more (by megawatts) of a PRD Provider's total PRD registered in a Zone fails the test the PRD Provider may request PJM to schedule a one-time retest limited to all registrations that failed the prior test, provided that all affiliated registrations must test simultaneously where affiliated means registered PRD that has any ability to shift load and that is owned or controlled by the same entity. The request must be made

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before the 46th day after the test. The Office of the Interconnection will select the date and time of the retest during the same season period (except if test was conducted in March in which case retest can be conducted in May) and notice is provided consistent with the following procedure.

(c) Notification of the initial Office of the Interconnection scheduled test will be provided as follows:

On the first business day of a week, PJM will provide notice of all zones to be tested during the following two week test window. The test window opens the first business day of the week following the notice. By 10:00 EPT the day before the test, the Office of the Interconnection will post on its website the test date. The Office of the Interconnection will also notify the PRD Providers the test date. On test date, PRD Providers will receive start time through web service communications and as defined in the PJM Manuals.

Notification of any scheduled retest by the Office of the Interconnection will be provided as follows:

By 10:00 EPT the day before the retest, the Office of the Interconnection will post the retest date on its website. PJM will also notify the PRD Providers the retest date. On retest date PRD Providers will receive start time through web service communications and as defined in the PJM Manuals.

(iii) A PRD Provider that registered PRD shall be assessed a PRD Test Failure Charge equal to the net PRD capability testing shortfall in a Zone during such test in the aggregate of all of such PRD Provider's registered PRD in such Zone times the PRD Test Failure Charge Rate. Prior to the 2022/2023 Delivery Year, the net capability testing shortfall in such Zone shall be the following megawatt quantity, converted to an Unforced Capacity basis using the applicable Forecast Pool Requirement:

MW Shortfall = [hourly integrated aggregate metered load for such PRD Provider's PRD load in the Zone or sub-Zonal LDA] – {(aggregate MESL for the Zone or sub-Zonal LDA) \* the higher of [1.0] or [(actual Zonal load – actual total PRD load in

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Zone) / (Final Zonal Peak Load Forecast – final Zonal Expected Peak Load Value of PRD in total for all PRD load in Zone}}.

The net PRD capability testing shortfall in such Zone shall be reduced by the PRD Provider's summer daily average of the MW shortfalls determined for compliance charge purposes under section I of this Schedule 6.1 in such Zone for such PRD Provider's registered PRD.

For the 2022/2023 Delivery Year and subsequent Delivery Years, the MW testing shortfall for a PRD registration is equal to the nominal load reduction value of such registration, capped at the daily Nominal PRD Value committed by such registration on the day of the test, minus the actual hourly load reduction for such registration. The test compliance results of the PRD Provider's registrations in a Zone that were expected to test are aggregated to determine a PRD Provider's net zonal testing shortfall.

(iv) The PRD Test Failure Charge Rate shall equal such PRD Provider's Weighted Final Zonal Capacity Price in such Zone plus the greater of (0.20 times the Weighted Final Zonal Capacity Price in such Zone or \$20/MW-day) times the number of days in the Delivery Year, where the Weighted Final Zonal Capacity Price is the average of the Final Zonal Capacity Price and the price component of the Final Zonal Capacity Price attributable to the Third Incremental Auction, weighted by the Nominal PRD Values committed by such PRD Provider in connection with the Base Residual Auction and those committed by such PRD Provider in connection with the Third Incremental Auction.

M. The revenue collected from assessment of the charges assessed under subsections I, K, and L of this Schedule 6.1 shall be distributed on a pro-rata basis to all entities that committed Capacity Resources in the RPM Auctions for the Delivery Year for which the compliance charge is assessed, pro rata based on each such entity's revenues from Capacity Market Clearing Prices in such auctions, net of any compliance charges incurred by such entity.

N. ~~For the 2022/2023 Delivery Year and subsequent Delivery Years, A~~ PRD Provider is subject to a Non-Performance Assessment and Non-Curtailment Performance Charge in accordance with the PJM Tariff, Attachment DD, sections 10A and 10B. Compliance is measured for a PRD registration upon declaration of a Performance Assessment Interval or Non-PAI Event interval in same sub-Zone/Zone

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of such PRD registration and when the PRD Curve associated with such registration in the PJM Real-time Energy Market has a price point at or below the Real-time LMP recorded during the Performance Assessment Interval or Non-PAI Event interval. A PRD registration with an approved exception to the automation requirement will not have compliance measured during Performance Assessment Interval(s) or Non-PAI Event interval that fall within the 15 minute response allowance. The actual load reduction provided by the registration for the Performance Assessment Interval or Non-PAI Event interval is calculated as the registration's peak load contribution minus (the metered load multiplied by the loss factor). A load reduction will only be recognized if metered load multiplied by the loss factor is less than the peak load contribution. When five minute revenue meter data is not available to determine compliance of a PRD registration for a Performance Assessment Interval or Non-PAI Event interval, the actual load reduction for a Performance Assessment Interval or Non-PAI Event interval is calculated as the actual hourly load reduction for the hour ending that includes the Performance Assessment Interval(s) or Non-PAI Event interval(s) multiplied by (twelve divided by the number of five minute intervals the PRD registration was to be measured for compliance). The actual load reduction for a registration for a Performance Assessment Interval or Non-PAI Event interval is capped at the peak load contribution of the registration. If the PRD Provider fails to submit actual metered data for the registration for all hours during the day of a Performance Assessment Interval or Non-PAI Event interval, the actual load reduction for such registration will be equal to zero MW.

### RAA SCHEDULE 8.1

#### C. Election, and Termination of Election, of FRR Alternative

1. No less than four months before the conduct of the Base Residual Auction for the first Delivery Year for which such election is to be effective, any Party seeking to elect the FRR Alternative shall notify the Office of the Interconnection in writing of such election. Such election shall be for a minimum term of five consecutive Delivery Years. No later than one month before such Base Residual Auction, such Party shall submit its FRR Capacity Plan demonstrating its commitment of Capacity Resources for the term of such election sufficient to meet such Party's Daily Unforced Capacity Obligation (and all other applicable obligations under this Schedule) for the load identified in such plan. No later than the last business day prior to the start of the relevant Delivery Year in which Capacity Performance requirements shall apply to such FRR Entity, the FRR Entity must also elect whether it seeks to be subject to the Non-Performance Charge for Capacity Performance Resources and Seasonal Capacity Performance Resources, as provided in section 10A of Attachment DD of the PJM Tariff, and Non-Curtailment

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[Charge for Demand Resources and ~~PRD~~ Price Responsive Demand Providers](#), as provided in [Tariff, Attachment DD, section 10B](#), and described in section G.1 of this Schedule 8.1, or to physical non-performance assessments, as described in section G.2 of this Schedule 8.1.

### G. Capacity Resource Performance

1. Any Capacity Resource committed by an FRR Entity in an FRR Capacity Plan for a Delivery Year shall be subject during such Delivery Year to the charges set forth in Tariff, Attachment DD, section 7, Tariff, Attachment DD, section 7A, Tariff, Attachment DD, section 10A, [Attachment DD, section 10B](#), Tariff, Attachment DD, section 11A, and Tariff, Attachment DD, section 13; provided, however: (i) the Daily Deficiency Rate under Tariff, Attachment DD, section 7, Tariff, Attachment DD, section 7A, Tariff, Attachment DD, section 11A, and Tariff, Attachment DD, section 13 shall be 1.20 times the Capacity Resource Clearing Price resulting from all RPM Auctions for such Delivery Year for the LDA encompassing the Zone of the FRR Entity, weight-averaged for the Delivery Year based on the prices established and quantities cleared in such auctions); and (ii) the charges set forth in Tariff, Attachment DD, sections [10A and 10B](#) shall apply, only to those FRR Entities which opted to be subject to the Non-Performance Charge [and Non-Curtailment Charge](#) under section C.1 of this Schedule 8.1 . An FRR Entity shall have the same opportunities to cure deficiencies and avoid or reduce associated charges during the Delivery Year that a Market Seller has under Tariff, Attachment DD, section 7, Tariff, Attachment DD, section 7A, Tariff, Attachment DD, section 10A, [Tariff, Attachment DD, section 10B](#), and Tariff, Attachment DD, section 11A. An FRR Entity may cure deficiencies and avoid or reduce associated charges prior to the Delivery Year by procuring replacement Unforced Capacity outside of any RPM Auction and committing such capacity in its FRR Capacity Plan.

2. For any FRR Entity which opted to be subject to physical non-performance assessments under RAA, Schedule 8.1, section C.1, such FRR Entity will not be subject to charges under Tariff, Attachment DD, section 10A [or Tariff, Attachment DD, section 10B](#), but, rather, it will be required to update its FRR Capacity Plan with additional megawatts of Capacity Performance Resources or Seasonal Capacity Performance Resources determined in accordance with the following: For each Performance Assessment Interval, the Actual Performance and Expected Performance of each resource contained in an FRR Entity's FRR Capacity Plan or Price Responsive Demand committed to reduce the FRR Entity's unforced capacity obligation (~~for the 2022/2023 Delivery Year and subsequent Delivery Years~~) will be determined in the same fashion as prescribed by the Tariff, Attachment DD, section 10A, and for such ~~hour~~ [interval](#), a

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net Performance Shortfall shall be determined. For each Non-PAI Event interval, the Actual Curtailment and Expected Curtailment of each resource contained in an FRR Entity's FRR Capacity Plan or Price Responsive Demand committed to reduce the FRR Entity's unforced capacity obligation will be determined in the same fashion as prescribed by the Tariff, Attachment DD, section 10B, and for such interval, a net Performance Shortfall shall be determined. separately for Capacity Performance Resources and for Base Capacity Resources. If, for a Performance Assessment Interval, the combined Actual Performance of all an FRR Entity's committed Capacity Performance Resources or Price Responsive Demand committed by the FRR Entity (for the 2022/2023 Delivery Year and subsequent Delivery Years) exceeds the Expected Performance of such resources or Price Responsive Demand, then such over-performance may be applied to any Performance Shortfall experienced by such FRR Entity's Base Capacity Resources for such hour. If, for a Performance Assessment Interval, the combined Actual Performance of all an FRR Entity's committed Base Capacity Resources exceeds the Expected Performance of such resources, then such over-performance may be applied to any Performance Shortfall experienced by such FRR Entity's Capacity Performance Resources or Price Responsive Demand committed by the FRR Entity (for the 2022/2023 Delivery Year and subsequent Delivery Years) for such hour. For the 2020/2021 Delivery Year, tThe net Performance Shortfall determined for Capacity Performance Resources and Price Responsive Demand shall include the performance of Seasonal Capacity Performance Resources contained in the FRR Capacity Plan.

The FRR Entity's net Performance Shortfall among Capacity Performance Resources or Price Responsive Demand, if any, for each such Performance Assessment Interval or Non-PAI Event interval shall be multiplied by a rate of 0.00139 MWs/Performance Assessment Interval or Non-PAI Event interval to establish the additional MW quantities of Capacity Performance Resources, Seasonal Capacity Performance Resources, or Price Responsive Demand that such FRR Entity must add to its FRR Capacity Plan for the next Delivery Year. Notwithstanding the foregoing, the total additional MWs required as a result of non-performance by the FRR Entity's Capacity Performance Resources and Price Responsive Demand in any Delivery Year shall not exceed a MW quantity equal to 0.5 times the MW quantity of the Capacity Performance Resources and Seasonal Capacity Performance Resources that were committed in the FRR Capacity Plan for such Delivery Year and Price Responsive Demand committed such Delivery Year (for the 2022/2023 Delivery Year and subsequent Delivery Years). The FRR Entity's net Performance Shortfall among Base Capacity Resources, if any, for each such Performance Assessment Interval shall be multiplied by a rate of [(0.00139 MWs/Performance Assessment Interval) times (the Base Capacity Resource Clearing Price resulting from the RPM Auctions for the Delivery Year for the LDA encompassing the Zone of the FRR Entity, weight-averaged for the Delivery Year based on the prices

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~~established and quantities cleared in such auctions, divided by the Net CONE established for such LDA for the Delivery Year)] to establish the additional MW quantities of Capacity Performance Resources or Seasonal Capacity Performance Resources that such FRR Entity must add to its FRR Capacity Plan for the next Delivery Year. Notwithstanding the foregoing, the total additional MWs required as a result of non-performance by the FRR Entity's Base Capacity Resources in any Delivery Year shall not exceed a MW quantity equal to [(0.5 times the MW quantity of the Base Capacity Resources that were committed in the FRR Capacity Plan for such Delivery Year) times (the Base Capacity Resource Clearing Price resulting from the RPM Auctions for the Delivery Year for the LDA encompassing the Zone of the FRR Entity, weight-averaged for the Delivery Year based on the prices established and quantities cleared in such auctions, divided by the Net CONE established for such LDA for the Delivery Year)].~~

An FRR Entity that elects the physical option shall not be eligible for, or subject to, the revenue allocation described in Tariff, Attachment DD, section 10A(g) [or Tariff, Attachment DD, section 10B\(c\)](#).

### OATT DD

#### OATT Attachment DD 5.3A Locational UCAP Bilateral Transactions

A Member that has committed capacity through an RPM Auction for a Delivery Year may purchase Locational UCAP as replacement capacity from a Member with available uncommitted capacity for such Delivery Year in accordance with the terms of this section and the PJM Manuals. Locational UCAP may not be sold or purchased prior to the date that the final Accredited UCAP Factor is established for such Delivery Year, and if designated to PJM by the Locational UCAP Seller as sold prior to the Third Incremental Auction for a Delivery Year must be confirmed by the buyer prior to such Third Incremental Auction as purchased for replacement capacity, or such transaction shall be rejected. In accordance with procedures specified in the PJM Manuals, the parties to a Locational UCAP transaction must notify PJM of such transaction, which notification must specify: i) the buyer, ii) the Locational UCAP Seller, iii) the start and end dates of the transaction (which may not be retroactive), iv) the Locational UCAP amount (no less than 0.1 megawatts), v) the demand or generation resource with available uncommitted capacity that is the basis for the sale, vi) the Locational Delivery Area in which the resource is located. The Locational UCAP Seller shall be responsible for any charges imposed under sections 7, 7A, 8, 10A, **10B**, 11A, or 13, as applicable, for such Delivery Year, with respect to the increment of capacity sold as Locational UCAP; any other settlement of charges under the Locational UCAP transaction shall be

between the parties. A purchaser of Locational UCAP may not offer such capacity into an RPM Auction.

## 5.5A Capacity Resource Types

### (a) Capacity Performance Resources

Capacity Performance Resources are Capacity Resources which, to the extent such resources cleared in a Reliability Pricing Model Auction or are otherwise committed as a Capacity Resource, are obligated to deliver energy during the relevant Delivery Year as scheduled and/or dispatched by the Office of Interconnection during the Performance Assessment Intervals. As further detailed in Tariff, Attachment DD, section 10A, 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). **As further detailed in Tariff, Attachment DD, section 10B, Demand Resources that fail to meet this obligation during Non-PAI Events will be subject to a Non-Curtailment Charge.** Subject to 5.5A(a)(i), the following types of Capacity Resources are eligible to submit a Sell Offer as a Capacity Performance Resource: internal or external Generation Capacity Resources; Annual Demand Resources; Capacity Storage Resources; Annual Energy Efficiency Resources; and Qualifying Transmission Upgrades. To the extent the underlying Capacity Resource is an external Generation Capacity Resource, such resource must meet, to the extent subsection (b) or (c) of this section is applicable to offers from such resource, meet the applicable requirements of such subsection, and if neither subsection (b) or (c) is applicable, then offers from such resource must the criteria for obtaining an exception to the Capacity Import Limit as contained in RAA, Article 1.

### (d) Seasonal Capacity Performance Resource

~~For the 2020/2021 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.

### i) Summer-Period Capacity Performance Resource

~~For the 2020/2021 Delivery Year and subsequent Delivery Years, t~~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 peakhour 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 reduce when~~ dispatched by the Office of Interconnection during Performance Assessment Intervals or Non-PAI Event 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, sections 10A or 10B, 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) and a Non-Curtailment Charge.

ii) Winter-Period Capacity Performance Resource

For the 2020/2021 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).