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September 29, 2006

Honorable Magalie R. Salas Secretary Federal Energy Regulatory Commission 888 First Street, N.E. Room 1A Washington, D.C. 20426

WRIGHT & TALISMAN, P.C.

OFFICE OF THE SECRETARY 29

206 SEP 29 P 3 45

MELAFORY COMMISSIO

Re: Settlement Agreement and Explanatory Statement of the Settling Parties Resolving All Issues in <u>PJM Interconnection L.L.C.</u>, Docket Nos. ER05-1410-000 and -001, and EL05-148-000 and -001

Dear Ms. Salas:

PJM Interconnection, L.L.C. ("PJM"), pursuant to Rule 602 of the Commission's Rules, submits for filing, on behalf of itself and the parties listed in the enclosed Settlement Agreement (collectively "Settling Parties"), an original and 14 copies of the settlement documents described below.

## I. Description of the Filing

The Settlement Agreement filed herein resolves all issues regarding the implementation by PJM of a reliability pricing model ("RPM") to replace PJM's existing capacity obligation rules, without the need for an evidentiary hearing or further proceedings. Therefore, the Settling Parties respectfully request that the Commission approve the Settlement Agreement, including the enclosed revised sheets of the PJM Open Access Transmission Tariff ("PJM Tariff"), PJM Operating Agreement, and the enclosed new Reliability Assurance Agreement for the PJM Region ("RAA"), as set forth in Attachments A through F to the Settlement Agreement.

## II. Documents Enclosed

The Settling Parties submit the following settlement materials:

1. Explanatory Statement, including appendices containing supplemental affidavits of Mr. Andrew L. Ott, Mr. Joseph E. Bowring, and Mr. Benjamin F. Hobbs, on behalf of PJM; Mr. Paul Williams, on behalf of the Portland Cement Association; and Mr. Robert Stoddard, on behalf of Mirant.

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2. Settlement Agreement, including appendices containing revised sheets to the PJM Tariff, Operating Agreement and RAA;

· reason

- 3. Proposed Letter Order; and
- 4. Certificate of Service.

## III. Comment Dates

Pursuant to Rule 602(f)(2), comments on the Settlement Agreement must be filed with the Secretary within 20 days of the filing of the settlement, i.e., on or before October 19, 2006, and reply comments must be filed with the Secretary within 30 days of such filing, i.e. on or before October 30, 2006.

# IV. Request for Review and Waiver

The Settlement Agreement provides that the RPM construct shall replace PJM's current capacity construct beginning on June 1, 2007, which is the first day of the next annual Delivery Year under the new capacity rules. To permit this implementation date, PJM must conduct the Base Residual Auction for the 2007-2008 Delivery Year in April 2007; therefore, PJM and the market participants must begin to implement the necessary systems and business practice changes as soon as possible. To that end, the Settling Parties are asking the Commission to approve the Settlement Agreement by December 22, 2006. To the extent necessary, waiver of the Commission's notice requirements is requested.

# V. Service and Request for Waiver of Posting Requirements

Pursuant to Rules 602(d) and 2010 (18 C.F.R. §§ 385.602(d) & 2010), PJM has served, either by paper or electronic service, the settlement documents listed in section II above, on all the parties listed on the official service list compiled by the Secretary in this proceeding, all PJM members, and all state commissions in the PJM Region.

With regard to service on the PJM members and the state commissions, PJM requests waiver of the posting requirements, so as to permit electronic service rather than paper service. Waiver of paper service is consistent with the Commission's decision to establish electronic service as the default method of service on service lists maintained by the Commission Secretary for Commission proceedings. While Order No. 653 did not amend the posting requirements, application of its rules to tariff filings would be consistent with the Commission's "efforts to reduce the use of paper in compliance with the Government Paperwork Elimination Act." Applying amended section 385.2010(f) to

See Electronic Notification of Commission Issuances, Order No. 653, 110 FERC ¶ 61,110 (2005).

<sup>&</sup>lt;sup>2</sup> Id. at P 2, citing 44 U.S.C. § 3504.

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this filing, PJM will post this filing today to the FERC filings section of its internet site, <a href="http://www.pjm.com/documents/ferc.html">http://www.pjm.com/documents/ferc.html</a>, and send an e-mail to all PJM members and all state utility regulatory commissions in the PJM Region<sup>3</sup> alerting them that this filing has been made by PJM today and is available by following such link. Within one business day, PJM will send a second e-mail to the same list, containing a link that takes the recipient directly to the filed document.<sup>4</sup>

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Respectfully submitted,

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Encl.

cc: Service List

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PJM already maintains, updates, and regularly uses e-mail lists for all Members and affected commissions.

PJM anticipates that in unusual circumstances, it may not be possible to post the document to its website on the day of filing, or to distribute an active link to the document within one business day. Consistent with §385.2010(i)(3), if a link to the document does not become available within two business days after filing, PJM will arrange for immediate service by other means.

PJM Interconnection, L.L.C. Docket Nos. EL05-148 and ER05-1410 September 29, 2006

Attachment A
PJM RAA Revisions
(Clean Version)

Reliability Assurance Agreement

Among Load-Serving Entities

In the PJM Region

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# **RELIABILITY ASSURANCE AGREEMENT**

# **Among**

# **LOAD SERVING ENTITIES**

in the

**PJM REGION** 

Original Sheet No. 1

## RELIABILITY ASSURANCE AGREEMENT

RELIABILITY ASSURANCE AGREEMENT, dated as of this 1<sup>st</sup> day of June, 2007 by and among the entities set forth in Schedule 17 hereto, hereinafter referred to collectively as the "Parties" and individually as a "Party."

### WITNESSETH:

WHEREAS, each Party to this Agreement is a Load Serving Entity within the PJM Region;

WHEREAS, each Party is committing to share its Capacity Resources with the other Parties to reduce the overall reserve requirements for the Parties while maintaining reliable service; and

WHEREAS, each Party is committing to provide mutual assistance to the other Parties during Emergencies;

WHEREAS, each Party is committing to coordinate its planning of Capacity Resources to satisfy the Reliability Principles and Standards;

WHEREAS, the Parties previously have entered into similar commitments related to sub-regions of the PJM Region through the East RAA, the West RAA, or the South RAA;

WHEREAS, the Parties desire, on a phased basis, to replace the East RAA, West RAA, and South RAA with a single reliability assurance agreement among all Load-Serving Entities in the PJM Region; and

**NOW THEREFORE,** for and in consideration of the covenants and mutual agreements set forth herein and intending to be legally bound hereby, the Parties agree as follows:

Issued By: Craig Glazer Effective: June 1, 2007

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Original Sheet No. 2

#### **ARTICLE 1 -- DEFINITIONS**

Unless the context otherwise specifies or requires, capitalized terms used herein shall have the respective meanings assigned herein or in the Schedules hereto for all purposes of this Agreement (such definitions to be equally applicable to both the singular and the plural forms of the terms defined). Unless otherwise specified, all references herein to Articles, Sections or Schedules, are to Articles, Sections or Schedules of this Agreement. As used in this Agreement:

- 1.1 Agreement shall mean this Reliability Assurance Agreement, together with all Schedules hereto, as amended from time to time.
- 1.2 Applicable Regional Reliability Council shall have the same meaning as in the PJM Tariff.
- 1.3 Base Residual Auction shall have the same meaning as in Attachment DD to the PJM Tariff.
- 1.4 Behind The Meter Generation shall mean a generating unit that delivers energy to load without using the Transmission System or any distribution facilities (unless the entity that owns or leases the distribution facilities consented to such use of the distribution facilities and such consent has been demonstrated to the satisfaction of the Office of the Interconnection; provided, however, that Behind The Meter Generation does not include (i) at any time, any portion of such generating unit's capacity that is designated as a Capacity Resource or (ii) in any hour, any portion of the output of such generating unit that is sold to another entity for consumption at another electrical location or into the PJM Interchange Energy Market.
- 1.5 Black Start Capability shall mean the ability of a generating unit or station to go from a shutdown condition to an operating condition and start delivering power without assistance from the power system.
- 1.6 Capacity Emergency Transfer Objective ("CETO") shall mean the amount of electric energy that a given area must be able to import in order to remain within a loss of load expectation of one event in 25 years when the area is experiencing a localized capacity emergency, as determined in accordance with the PJM Manuals. Without limiting the foregoing, CETO shall be calculated based in part on EFOR<sub>D</sub> determined in accordance with Paragraph C of Schedule 5.
- 1.7 Capacity Emergency Transmission Limit ("CETL") shall mean the capability of the transmission system to support deliveries of electric energy to a given area experiencing a localized capacity emergency as determined in accordance with the PJM Manuals.

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- 1.8 Capacity Resources shall mean megawatts of (i) net capacity from existing or Planned Generation Capacity Resources meeting the requirements of Schedules 9 and 10 that are or will be owned by or contracted to a Party and that are or will be committed to satisfy that Party's obligations under this Agreement for a Delivery Year; (ii) net capacity from existing or Planned Generation Capacity Resources within the PJM Region not owned or contracted for by a Party which are accredited to the PJM Region pursuant to the procedures set forth in Schedules 9 and 10; and (iii) load reduction capability provided by Demand Resources or ILR that are accredited to the PJM Region pursuant to the procedures set forth in Schedule 6.
- 1.9 Capacity Transfer Right shall have the meaning specified in Attachment DD to the PJM Tariff.
- 1.10 Control Area shall mean an electric power system or combination of electric power systems bounded by interconnection metering and telemetry to which a common generation control scheme is applied in order to:
- (a) match the power output of the generators within the electric power system(s) and energy purchased from entities outside the electric power system(s), with the load within the electric power system(s);
- (b) maintain scheduled interchange with other Control Areas, within the limits of Good Utility Practice;
- (c) maintain the frequency of the electric power system(s) within reasonable limits in accordance with Good Utility Practice and the criteria of NERC and Applicable Regional Reliability Councils;
- (d) maintain power flows on transmission facilities within appropriate limits to preserve reliability; and
- (e) provide sufficient generating capacity to maintain operating reserves in accordance with Good Utility Practice.
- 1.11 Daily Unforced Capacity Obligation shall have the meaning set forth in Schedule 8 or, as to an FRR Entity, in Schedule 8.1.
- 1.12 Delivery Year shall mean a Planning Period for which a Capacity Resource is committed pursuant to the auction procedures specified in Attachment DD to the Tariff or pursuant to an FRR Capacity Plan.
- 1.13 Demand Resource shall mean a resource with a demonstrated capability to provide a reduction in demand or otherwise control load in accordance with the requirements of Schedule 6 that offers and that clears load reduction capability in a Base Residual Auction or Incremental Auction or that is committed through an FRR Capacity Plan. As set forth in Schedule 6, a Demand Resource may be an existing demand response resource or a Planned Demand Resource.

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- 1.14 Demand Resource Provider shall have the meaning specified in Attachment DD to the PJM Tariff.
- 1.15 DR Factor shall mean that factor approved from time to time by the PJM Board used to determine the unforced capacity value of a Demand Resource or ILR in accordance with Schedule 6.
- 1.16 East RAA shall mean that certain Reliability Assurance Agreement among Load-Serving Entities in the PJM Region, PJM Rate Schedule FERC No. 27.
- 1.17 Electric Cooperative shall mean an entity owned in cooperative form by its customers that is engaged in the generation, transmission, and/or distribution of electric energy.
- 1.18 Electric Distributor shall mean an entity that owns or leases with rights equivalent to ownership electric distribution facilities that are providing electric distribution service to electric load within the PJM Region.
- 1.19 Emergency shall mean (i) an abnormal system condition requiring manual or automatic action to maintain system frequency, or to prevent loss of firm load, equipment damage, or tripping of system elements that could adversely affect the reliability of an electric system or the safety of persons or property; or (ii) a fuel shortage requiring departure from normal operating procedures in order to minimize the use of such scarce fuel; or (iii) a condition that requires implementation of emergency procedures as defined in the PJM Manuals.
- 1.20 End-Use Customer shall mean a Member that is a retail end-user of electricity within the PJM Region.
  - 1.21 Facilities Study Agreement shall have the same meaning as in the PJM Tariff
- 1.22 FERC shall mean the Federal Energy Regulatory Commission or any successor federal agency, commission or department.
- 1.23 Firm Point-To-Point Transmission Service shall mean Firm Transmission Service provided pursuant to the rates, terms and conditions set forth in Part II of the PJM Tariff.
- 1.24 Firm Transmission Service shall mean transmission service that is intended to be available at all times to the maximum extent practicable, subject to an Emergency, an unanticipated failure of a facility, or other event beyond the control of the owner or operator of the facility or the Office of the Interconnection.
- 1.25 Fixed Resource Requirement Alternative or FRR Alternative shall mean an alternative method for a Party to satisfy its obligation to provide Unforced Capacity hereunder, as set forth in Schedule 8.1 to this Agreement.

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- 1.26 Forecast Pool Requirement shall mean the amount equal to one plus the unforced reserve margin (stated as a decimal number) for the PJM Region required pursuant to this Agreement, as approved by the PJM Board pursuant to Schedule 4.1.
- 1.27 Forecast RTO ILR Obligation shall have the same meaning as in the PJM Tariff.
- 1.28 Forecast Zonal ILR Obligation shall have the same meaning as in the PJM Tariff.
- 1.29 FRR Capacity Plan shall mean a long-term plan for the commitment of Capacity Resources to satisfy the capacity obligations of a Party that has elected the FRR Alternative, as more fully set forth in Schedule 8.1 to this Agreement.
- 1.30 FRR Entity shall mean, for the duration of such election, a Party that has elected the FRR Alternative hereunder.
- FRR Service Area shall mean (a) the service territory of an IOU as recognized by state law, rule or order; (b) the service area of a Public Power Entity or Electric Cooperative as recognized by franchise or other state law, rule, or order; or (c) a separately identifiable geographic area that is: (i) bounded by wholesale metering, or similar appropriate multi-site aggregate metering, that is visible to, and regularly reported to, the Office of the Interconnection, or that is visible to, and regularly reported to an Electric Distributor and such Electric Distributor agrees to aggregate the load data from such meters for such FRR Service Area and regularly report such aggregated information, by FRR Service Area, to the Office of the Interconnection; and (ii) for which the FRR Entity has or assumes the obligation to provide capacity for all load (including load growth) within such area excluding the load of Single-Customer LSEs that are FRR Entities. In the event that the service obligations of an Electric Cooperative or Public Power Entity are not defined by geographic boundaries but by physical connections to a defined set of customers, the FRR Service Area in such circumstances shall be defined as all customers physically connected to transmission or distribution facilities of such Electric Cooperative or Public Power Entity within an area bounded by appropriate wholesale aggregate metering as described above.
- 1.32 Full Requirements Service shall mean wholesale service to supply all of the power needs of a Load Serving Entity to serve end-users within the PJM Region that are not satisfied by its own generating facilities.
- 1.33 Generation Capacity Resource shall mean a generation unit, or the right to capacity from a specified generation unit, that meets the requirements of Schedules 9 and 10 of this Agreement. A Generation Resource may be an existing Generation Resource or a Planned Generation Resource.
- 1.34 Generation Owner shall mean a Member that owns or leases with rights equivalent to ownership facilities for the generation of electric energy that are located within the

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PJM Region. Purchasing all or a portion of the output of a generation facility shall not be sufficient to qualify a Member as a Generation Owner.

- 1.35 Generator Forced Outage shall mean an immediate reduction in output or capacity or removal from service, in whole or in part, of a generating unit by reason of an Emergency or threatened Emergency, unanticipated failure, or other cause beyond the control of the owner or operator of the facility, as specified in the relevant portions of the PJM Manuals. A reduction in output or removal from service of a generating unit in response to changes in market conditions shall not constitute a Generator Forced Outage.
- 1.36 Generator Maintenance Outage shall mean the scheduled removal from service, in whole or in part, of a generating unit in order to perform repairs on specific components of the facility, if removal of the facility qualifies as a maintenance outage pursuant to the PJM Manuals.
- 1.37 Generator Planned Outage shall mean the scheduled removal from service, in whole or in part, of a generating unit for inspection, maintenance or repair with the approval of the Office of the Interconnection in accordance with the PJM Manuals.
- 1.38 Good Utility Practice shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather is intended to include acceptable practices, methods, or acts generally accepted in the region.
- 1.39 ILR Provider shall have the meaning specified in Attachment DD to the PJM Tariff.
- 1.40 Incremental Auction shall mean the First Incremental Auction, the Second Incremental Auction, or the Third Incremental Auction, each as defined in Attachment DD to the PJM Tariff.
  - 1.41 Interconnection Agreement shall have the same meaning as in the PJM Tariff.
- 1.42 Interruptible Load for Reliability, or ILR, shall mean a resource with a demonstrated capability to provide a reduction in demand or otherwise control load in accordance with the requirements of Schedule 6 that is certified by PJM no later than three months prior to a Delivery Year.
- 1.43 IOU shall mean an investor-owned utility with substantial business interest in owning and/or operating electric facilities in any two or more of the following three asset categories: generation, transmission, distribution.

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- 1.44 Load Serving Entity or LSE shall mean any entity (or the duly designated agent of such an entity), including a load aggregator or power marketer, (i) serving end-users within the PJM Region, and (ii) that has been granted the authority or has an obligation pursuant to state or local law, regulation or franchise to sell electric energy to end-users located within the PJM Region. Load Serving Entity shall include any end-use customer that qualifies under state rules or a utility retail tariff to manage directly its own supply of electric power and energy and use of transmission and ancillary services.
- 1.45 Locational Reliability Charge shall mean the charge determined pursuant to Schedule 8.
- 1.46 Markets and Reliability Committee shall mean the committee established pursuant to the Operating Agreement as a Standing Committee of the Members Committee.
- 1.47 Member shall mean an entity that satisfies the requirements of Sections 1.24 and 11.6 of the PJM Operating Agreement. In accordance with Article 4 of this Agreement, each Party to this Agreement also is a Member.
- 1.48 Members Committee shall mean the committee specified in Section 8 of the PJM Operating Agreement composed of the representatives of all the Members.
- 1.49 NERC shall mean the North American Electric Reliability Council or any successor thereto.
  - 1.50 Network Resources shall have the meaning set forth in the PJM Tariff.
- 1.51 Network Transmission Service shall mean transmission service provided pursuant to the rates, terms and conditions set forth in Part III of the PJM Tariff or transmission service comparable to such service that is provided to a Load Serving Entity that is also a Transmission Owner (as that term is defined in the PJM Tariff).
- 1.52 Nominated Demand Resource Value shall have the meaning specified in Attachment DD to the PJM Tariff.
- 1.53 Nominated ILR Value shall have the meaning specified in Attachment DD to the PJM Tariff.
- 1.54 Non-Retail Behind the Meter Generation shall mean Behind the Meter Generation that is used by municipal electric systems, electric cooperatives, and electric distribution companies to serve load.
- 1.55 Obligation Peak Load shall be the summation of the weather normalized coincident summer peaks for the previous summer of the end-users for which the Party was responsible on that billing day, as determined pursuant to Schedule 8 of this Agreement.

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- 1.56 Office of the Interconnection shall mean the employees and agents of PJM Interconnection, L.L.C., subject to the supervision and oversight of the PJM Board, acting pursuant to the Operating Agreement.
- 1.57 Operating Agreement of PJM Interconnection, L.L.C. or Operating Agreement shall mean that certain agreement, dated April 1, 1997 and as amended and restated June 2, 1997 and as amended from time to time thereafter, among the members of the PJM Interconnection, L.L.C.
- 1.58 Operating Reserve shall mean the amount of generating capacity scheduled to be available for a specified period of an operating day to ensure the reliable operation of the PJM Region, as specified in the PJM Manuals.
- 1.59 Other Supplier shall mean a Member that is (i) a seller, buyer or transmitter of electric capacity or energy in, from or through the PJM Region, and (ii) is not a Generation Owner, Electric Distributor, Transmission Owner or End-Use Customer.
- 1.60 Partial Requirements Service shall mean wholesale service to supply a specified portion, but not all, of the power needs of a Load Serving Entity to serve end-users within the PJM Region that are not satisfied by its own generating facilities.
- 1.61 Percentage Internal Resources Required shall mean, for purposes of an FRR Capacity Plan, the percentage of the LDA Reliability Requirement for an LDA that must be satisfied with Capacity Resources located in such LDA.
  - 1.62 Party shall mean an entity bound by the terms of this Agreement.
  - 1.63 PJM shall mean the PJM Board and the Office of the Interconnection.
- 1.64 PJM Board shall mean the Board of Managers of the PJM Interconnection, L.L.C., acting pursuant to the Operating Agreement.
- 1.65 PJM Manuals shall mean the instructions, rules, procedures and guidelines established by the Office of the Interconnection for the operation, planning and accounting requirements of the PJM Region.
- 1.66 PJM Open Access Transmission Tariff or PJM Tariff shall mean the tariff for transmission service within the PJM Region, as in effect from time to time, including any schedules, appendices, or exhibits attached thereto.
- 1.67 PJM Region shall have the same meaning as provided in the Operating Agreement.
- 1.68 PJM Region Installed Reserve Margin shall mean the percent installed reserve margin for the PJM Region required pursuant to this Agreement, as approved by the PJM Board pursuant to Schedule 4.1.

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- 1.69 Planned Demand Resource shall mean a Demand Resource that does not currently have the capability to provide a reduction in demand or to otherwise control load, but that is scheduled to be capable of providing such reduction or control on or before the start of the Delivery Year for which such resource is to be committed, as determined in accordance with the requirements of Schedule 6.
- Planned Generation Capacity Resource shall mean a Generation Capacity 1.70 Resource participating in the generation interconnection process under part IV, subpart A of the PJM Tariff, for which Interconnection Service is scheduled to commence on or before the first day of the Delivery Year for which such resource is to be committed, for which a Facilities Study Agreement has been executed prior to the Base Residual Auction for such Delivery Year, and for which an Interconnection Service Agreement has been executed prior to any Incremental Auction for such Delivery Year. Notwithstanding the foregoing, for purposes of any Delivery Year for which the Base Residual Auction is conducted in calendar year 2007 and 2008 as part of the Transition in implementing the Reliability Pricing Model, a Planned Generation Capacity Resource shall include a Generation Capacity Resource scheduled to be in service on or before the first day of such Delivery Year, for which a System Impact Study Agreement has been executed prior to the Base Residual Auction for such Delivery Year. A Generation Capacity Resource shall cease to be considered a Planned Generation Capacity Resource as of the date that Interconnection Service commences, in accordance with Part IV of the PJM Tariff, as to such resource.
- 1.71 Planning Period shall mean the 12 months beginning June 1 and extending through May 31 of the following year, or such other period approved by the Members Committee.
- 1.72 Public Power Entity shall mean any agency, authority, or instrumentality of a state or of a political subdivision of a state, or any corporation wholly owned by any one or more of the foregoing, that is engaged in the generation, transmission, and/or distribution of electric energy.
- 1.73 Qualifying Transmission Upgrades shall have the meaning specified in Attachment DD to the PJM Tariff.
- 1.74 Markets and Reliability Committee shall mean the committee established pursuant to the Operating Agreement as a Standing Committee of the Members Committee.
- 1.75 Reliability Principles and Standards shall mean the principles and standards established by NERC or an Applicable Regional Reliability Council to define, among other things, an acceptable probability of loss of load due to inadequate generation or transmission capability, as amended from time to time.
- 1.76 Required Approvals shall mean all of the approvals required for this Agreement to be modified or to be terminated, in whole or in part, including the acceptance for filing by FERC and every other regulatory authority with jurisdiction over all or any part of this Agreement.

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- 1.77 Self-Supply shall have the meaning provided in Attachment DD to the PJM Tariff.
- 1.78 Single-Customer LSE shall mean a Party that (a) serves only retail customers that are Affiliates of such Party; (b) owns or controls generation facilities located at one or more of the retail customer location(s) that in the aggregate satisfy at least 50% of such Party's Unforced Capacity obligations; and (c) serves retail customers having (i) an Obligation Peak Load at all locations of no less than 100 MW, where such peak load of each such location is no less than 10 MW; or (ii) an Obligation Peak Load at each location served of no less than 25 MW.
- 1.79 South RAA shall mean that certain Reliability Assurance Agreement among Load-Serving Entities in the PJM South Region, on file with FERC as PJM Rate Schedule FERC No. 40.
- 1.80 State Consumer Advocate shall mean a legislatively created office from any State, all or any part of the territory of which is within the PJM Region, and the District of Columbia established, inter alia, for the purpose of representing the interests of energy consumers before the utility regulatory commissions of such states and the District of Columbia and the FERC.
- 1.81 State Regulatory Structural Change shall mean as to any Party, a state law, rule, or order that, after September 30, 2006, initiates a program that allows retail electric consumers served by such Party to choose from among alternative suppliers on a competitive basis, terminates such a program, expands such a program to include classes of customers or localities served by such Party that were not previously permitted to participate in such a program, or that modifies retail electric market structure or market design rules in a manner that materially increases the likelihood that a substantial proportion of the customers of such Party that are eligible for retail choice under such a program (a) that have not exercised such choice will exercise such choice; or (b) that have exercised such choice will no longer exercise such choice, including for example, without limitation, mandating divestiture of utility-owned generation or structural changes to such Party's default service rules that materially affect whether retail choice is economically viable.
- 1.82 Threshold Quantity shall mean, as to any FRR Entity for any Delivery Year, the sum of (a) the Unforced Capacity equivalent (determined using the Pool-Wide Average EFOR<sub>D</sub>) of the Installed Reserve Margin for such Delivery Year multiplied by the Preliminary Forecast Peak Load for which such FRR Entity is responsible under its FRR Capacity Plan for such Delivery Year, plus (b) the lesser of (i) 3% of the Unforced Capacity amount determined in (a) above or (ii) 450 MW. If the FRR Entity is not responsible for all load within a Zone, the Preliminary Forecast Peak Load for such entity shall be the FRR Entity's Obligation Peak Load last determined prior to the Base Residual Auction for such Delivery Year, times the Base FRR Scaling Factor (as determined in accordance with Schedule 8.1).

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- 1.83 Transmission Facilities shall mean facilities that: (i) are within the PJM Region; (ii) meet the definition of transmission facilities pursuant to FERC's Uniform System of Accounts or have been classified as transmission facilities in a ruling by FERC addressing such facilities; and (iii) have been demonstrated to the satisfaction of the Office of the Interconnection to be integrated with the PJM Region transmission system and integrated into the planning and operation of the PJM Region to serve all of the power and transmission customers within the PJM Region.
- 1.84 Transmission Owner shall mean a Member that owns or leases with rights equivalent to ownership Transmission Facilities. Taking transmission service shall not be sufficient to qualify a Member as a Transmission Owner.
- 1.85 Transmission Owners Agreement shall mean that certain Consolidated Transmission Owners Agreement, dated as of December 15, 2005 and as amended from time to time, among transmission owners within the PJM Region.
- 1.86 Unforced Capacity shall mean installed capacity rated at summer conditions that is not on average experiencing a forced outage or forced derating, calculated for each Capacity Resource on the 12-month period from October to September without regard to the ownership of or the contractual rights to the capacity of the unit.
- 1.87 West RAA shall mean the "PJM West Reliability Assurance Agreement among the Load Serving Entities in the PJM West Region," on file with FERC as PJM Rate Schedule FERC No. 32.
- 1.88 Zonal Capacity Price shall mean the price of Unforced Capacity in a Zone that an LSE that has not elected the FRR Alternative is obligated to pay for a Delivery Year as determined pursuant to Attachment DD to the PJM Tariff.
- 1.89 Zone shall mean an area within the PJM Region, as set forth in Schedule 15, or as such areas may be (i) combined as a result of mergers or acquisitions or (ii) added as a result of the expansion of the boundaries of the PJM Region. A Zone shall include any Non-Zone Network Load (as defined in the PJM Tariff) located outside the PJM Region that is served from such Zone under Schedule H-A of the PJM Tariff.

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## ARTICLE 2 -- PURPOSE

This Agreement is intended to ensure that adequate Capacity Resources, including planned and existing Generation Capacity Resources, planned and existing Demand Resources, and ILR will be planned and made available to provide reliable service to loads within the PJM Region, to assist other Parties during Emergencies and to coordinate planning of such resources consistent with the Reliability Principles and Standards. Further, it is the intention and objective of the Parties to implement this Agreement in a manner consistent with the development of a robust competitive marketplace. To accomplish these objectives, this Agreement is among all of the Load Serving Entities within the PJM Region. Unless this Agreement is terminated as provided in Section 3.3, every entity which is or will become a Load Serving Entity within the PJM Region is to become and remain a Party to this Agreement or to an agreement (such as a requirements supply agreement) with a Party pursuant to which that Party has agreed to act as the agent for the Load Serving Entity for purposes of satisfying the obligations under this Agreement related to the load within the PJM Region of that Load Serving Entity. Nothing herein is intended to abridge, alter or otherwise affect the emergency powers the Office of the Interconnection may exercise under the Operating Agreement and PJM Tariff.

#### ARTICLE 3 -- TERM AND TERMINATION OF THE AGREEMENT

- 3.1 Term. This Agreement shall become effective as of June 1, 2007 and shall govern Unforced Capacity Obligations for the Planning Period beginning as of that date ("Initial Delivery Year"), and for each Planning Period thereafter, unless and until terminated in accordance with the terms hereof.
- 3.2 Transition Provisions. The East RAA, West RAA, and South RAA shall govern, in accordance with their terms now in effect or as hereafter validly amended, capacity requirements for each Planning Period through the end of the Planning Period ending May 31, 2007. Subject to the termination provisions in each such agreement, the East RAA, West RAA, and South RAA shall terminate effective 11:59:59 p.m. on May 31, 2007.

#### 3.3 Termination.

- 3.3.1 Rights to Terminate. This Agreement may be terminated by a vote in the Members Committee to terminate the Agreement by an affirmative Sector Vote as specified in the Operating Agreement and upon the receipt of all Required Approvals related to the termination of this Agreement. Any such termination must be approved by the PJM Board and filed with the FERC and shall become effective only upon the FERC's approval.
- 3.3.2 Obligations upon Termination. Any provision of this Agreement that expressly or by implication comes into or remains in force following the termination of this Agreement shall survive such termination. The surviving provisions shall include, but shall not be limited to: (a) final settlement of the obligations of each Party under Articles 8 and 12 of this Agreement, including the accounting for the period ending with the last day of the month for which the Agreement is effective, (b) the provisions of this Agreement necessary to conduct final billings, collections and accounting with respect to all matters arising hereunder and (c) the indemnification provisions as applicable to periods prior to such termination.

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#### ARTICLE 4 -- ADDITION OF NEW PARTIES

Each Party agrees that any entity that (i) is or will become a Load Serving Entity, (ii) complies with the process and data requirements set forth in Schedule 1, and (iii) meets the standards for interconnection set forth in Schedule 2 shall become a Party to this Agreement and shall be listed on Schedule 16 of this Agreement upon becoming a party to the Operating Agreement, and execution of a counterpart of this Agreement.

# ARTICLE 5 -- WITHDRAWAL OR REMOVAL OF A PARTY

## 5.1 Withdrawal of a Party.

- 5.1.1 Notice. Upon written notice to the Office of the Interconnection, any Party may withdraw from this Agreement, effective upon the completion of its obligations hereunder and the documentation by such Party, to the satisfaction of the Office of the Interconnection, that such Party is no longer a Load Serving Entity.
  - 5.1.2 Determination of Obligations. A Party's obligations hereunder shall be completed as of the end of the last month for which such Party's obligations have been set at the time said notice is received, except as provided in Article 13, or unless the Members Committee determines that the remaining Parties will be able to adjust their obligations and commitments related to the performance of this Agreement consistent with such earlier withdrawal date as may be requested by the withdrawing Party, without undue hardship or cost, while maintaining the reliability of the PJM Region.
  - 5.1.3 Survival of Obligations upon Withdrawal. (a) The obligations of a Party upon its withdrawal from this Agreement and any obligations of that Party under this Agreement at the time of its withdrawal shall survive the withdrawal of the Party from this Agreement. Upon the withdrawal of a Party from this Agreement, final settlement of the obligations of such Party under Articles 7 and 11 of this Agreement shall include the accounting through the date established pursuant to Sections 5.1.1 and 5.1.2.
  - (b) Any Party that withdraws from this Agreement shall pay all costs and expenses associated with additions, deletions and modifications to communication, computer, and other affected facilities and procedures, including any filing fees, to effect the withdrawal of the Party from the Agreement.
  - (c) Prior to withdrawal, a withdrawing Party desiring to remain interconnected with the PJM Region shall enter into a control area to control area interconnection agreement with the Office of the Interconnection and the transmission owner or Electric Distributor within the PJM Region with which its facilities are interconnected.

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- **5.1.4 Regulatory Review.** Any withdrawal from this Agreement shall be filed with FERC and shall become effective only upon FERC's approval.
- Breach by a Party. If a Party (a) fails to pay any amount due under this 5.2 Agreement within 30 days after the due date or (b) is in breach of any material obligation under this Agreement, the Office of the Interconnection shall cause a notice of such non-payment or breach to be sent to that Party. If the Party fails, within 3 days of the receipt of such notice (except as otherwise described below), to cure such non-payment or breach, or if the breach cannot be cured within such time and if the Party does not diligently commence to cure the breach within such time and to diligently pursue such cure to completion, the Office of the Interconnection and the remaining Parties may, without an election of remedies, exercise all remedies available at law or in equity or other appropriate proceedings. Such proceedings may include (c) the commencement of a proceeding before the appropriate state regulatory commission(s) to request suspension or revocation of the breaching Party's license or authorization to serve retail load within the state(s) and/or (d) bringing any civil action or actions or recovery of damages that may include, but not be limited to, all amounts due and unpaid by the breaching Party, and all costs and expenses reasonably incurred in the exercise of its remedies hercunder (including, but not limited to, reasonable attorneys' fees).

# ARTICLE 6 -- MANAGEMENT ADMINISTRATION

Except as otherwise provided herein, this Agreement shall be managed and administered by the Parties, Members, and State Consumer Advocates through the Members Committee and the Markets and Reliability Committee as a Standing Committee thereof, except as delegated to the Office of the Interconnection and except that only the PJM Board shall have the authority to approve and authorize the filing of amendments to this Agreement with the FERC.

# ARTICLE 7 -- RESERVE REQUIREMENTS AND OBLIGATIONS

- 7.1 Forecast Pool Requirement and Unforced Capacity Obligations. (a) The Forecast Pool Requirement shall be established to ensure a sufficient amount of capacity to meet the forecast load plus reserves adequate to provide for the unavailability of Generation Capacity Resources, load forecasting uncertainty, and planned and maintenance outages. Schedule 4 sets forth guidelines with respect to the Forecast Pool Requirement.
- (b) Unless the Party and its customer that is also a Load Serving Entity agree that such customer is to bear direct responsibility for the obligations set forth in this Agreement, (i) any Party that supplies Full Requirements Service to a Load Serving Entity within the PJM Region shall be responsible for all of that Load Serving Entity's capacity obligations under this Agreement for the period of such Full Requirements Service and (ii) any Party that supplies Partial Requirements Service to a Load Serving Entity within the PJM Region shall be responsible for such portion of the capacity obligations of that Load Serving Entity as agreed by the Party and the Load Serving Entity so long as the Load Serving Entity's full capacity obligation under this Agreement is allocated between or among Parties to this Agreement.

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- 7.2 Responsibility to Pay Locational Reliability Charge. Except to the extent its capacity obligations are satisfied through the FRR Alternative, each Party shall pay, as to the loads it serves in each Zone during a Delivery Year, a Locational Reliability Charge for each such Zone during such Delivery Year. The Locational Reliability Charge shall equal such Party's Daily Unforced Capacity Obligation in a Zone, as determined pursuant to Schedule 8 of this Agreement, times the Final Zonal Capacity Price for such Zone, as determined pursuant to Attachment DD of the PJM Tariff.
- 7.3 LSE Option to Provide Capacity Resources. A Party obligated to pay a Locational Reliability Charge for a Delivery Year may partially or wholly offset amounts it must pay for suchcharge by offering Capacity Resources for sale in the Base Residual Auction or Second Incremental Auction, if such auction is held, applicable to such Delivery Year; provided such resources clear such auctions. Resources offered for sale in any such auction must satisfy the requirements specified in this Agreement and the PJM Manuals. Such a Party may choose to nominate a resource in the Base Residual Auction as Self-Supply, may choose to designate a price offer for such resource into any such auction, or may indicate in its offer that it wishes to commit such resource regardless of the clearing price, in which case the Party shall receive the marginal value of system capacity and the price adders for any applicable binding locational constraint in accordance with Attachment DD of the PJM Tariff. Each such Party acknowledges that the clearing price it receives for a resource offered for sale and cleared, or Self-Supplied, in an auction may differ from the Final Zonal Capacity Price determined for the applicable Zone for the applicable Delivery Year, and that the Party shall remain responsible for the Locational Reliability Charge notwithstanding any such difference between the Capacity Resource Clearing Price and the Final Zonal Capacity Price. In addition, such Parties recognize that they may receive an allocation of Capacity Transfer Rights which may offset a portion of the Locational Reliability Charge, and that they may offset a portion of the Locational Reliability Charge by nominating ILR, or by offering and clearing Qualifying Transmission Upgrades in the Base Residual Auction.
- 7.4 Fixed Resource Requirement Alternative. A Party that is eligible for the Fixed Resource Requirement Alternative may satisfy its obligations hereunder to provide Unforced Capacity by submitting and adhering to an FRR Capacity Plan and meeting all other terms and conditions of such alternative, as set forth in this Agreement.
- Resources to meet its obligations hereunder shall submit to the Office of the Interconnection its plans (or revisions to previously submitted plans), as prescribed by Schedule 7, or, in the case of a Party electing the FRR Alternative, as prescribed by Schedule 8.1, to install or contract for Capacity Resources. As set forth in Schedule 10, each Party must designate its Capacity Resources as Network Resources or Points of Receipt under the PJM Tariff to allow firm delivery of the output of its Capacity Resources to the Party's load within the PJM Region and each Party must obtain any necessary Firm Transmission Service in an amount sufficient to deliver Capacity Resources from outside the PJM Region to the border of the PJM Region to reliably serve the Party's load within the PJM Region.

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- 76 Nature of Resources. Each Party electing to Self-Supply resources, or electing the FRR Alternative, shall provide or arrange for specific, firm Capacity Resources that are capable of supplying the energy requirements of its own load on a firm basis without interruption for economic conditions and with such other characteristics that are necessary to support the reliable operation of the PJM Region, as set forth in more detail in Schedules 6, 9 and 10.
- 7.7 Compliance Audit of Parties. (a) For the 36 months following the end of each Planning Period, each Party shall make available the records and supporting information related to the performance of this Agreement from such Planning Period for audit.
- (b) The Office of the Interconnection shall evaluate and determine the need for an audit of a Party and shall, upon a decision of the Members Committee to require such an audit, provide the Party or Parties to be audited with notice at least 90 days in advance of the audit.
- (c) Any audit of a Party conducted pursuant to this Agreement shall be performed by an independent consultant to be selected by the Office of the Interconnection. Such audit shall include a review of the Party's compliance with the procedures and standards adopted pursuant to this Agreement.
- (d) Prior to the completion of its audit, the independent consultant shall review its preliminary findings with the Party being audited and, upon the completion of its audit, the independent consultant shall issue a final audit report detailing the results of the audit, which final report shall be issued to the Party being audited, the Office of the Interconnection and the Markets and Reliability Committee; provided, however, no confidential data of any Party shall be disclosed through such audit reports.
- (e) If, based on a final audit report, an adjustment is required to any amounts due to or from the Parties pursuant to Schedules 8, 12, or 13, such adjustment shall be accounted for in determining the amounts due to or from the Parties pursuant to Schedules 8, 12, or 13 for the month in which the adjustment is identified.

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# ARTICLE 8 -- DEFICIENCY, DATA SUBMISSION, AND EMERGENCY CHARGES

- 8.1 Nature of Charges. Upon the advice and recommendations of the Members Committee, the PJM Board shall, subject to any Required Approvals, approve certain charges to be imposed on a Party for its failure to satisfy its obligations under this Agreement, as set forth in Schedule 12.
- 8.2 Determination of Charge Amounts. No later than April 1 of each year, the Members Committee shall recommend to the PJM Board such charges to be applicable under this Agreement during the following Planning Period and Schedule 12, which, upon approval by the PJM Board, shall be modified accordingly, subject to the receipt of all Required Approvals. The Markets and Reliability Committee may establish projected charges for estimating purposes only.
- 8.3 Distribution of Charge Receipts. All of the monies received as a result of any charges imposed pursuant to this Agreement shall be disbursed as provided in this Agreement.

# ARTICLE 9 -- COORDINATED PLANNING AND OPERATION

- 9.1 Overall Coordination. Each Party shall cooperate with the other Parties in the coordinated planning and operation of their owned or contracted for Capacity Resources to obtain a degree of reliability consistent with the Reliability Principles and Standards. In furtherance of such cooperation each Party shall:
- (a) coordinate its Capacity Resource plans with the other Parties to maintain reliable service to its own electric customers and those of the other Parties;
- (b) cooperate with the members and associate members of such Party's Applicable Regional Reliability Council to ensure the reliability of the region;
- (c) make available its Capacity Resources to the other Parties through the Office of the Interconnection for coordinated operation and to supply the needs of the PJM Region for Operating Reserves;
- (d) provide or arrange for Network Transmission Service or Firm Point-to-Point Transmission Service for service to the projected load of the Party and include all Capacity Resources as Network Resources designated pursuant to the PJM Tariff or Points of Receipt for Firm Point-to-Point Transmission Service;
- (c) provide or arrange for sufficient reactive capability and voltage control facilities to meet Good Utility Practice and to be consistent with the Reliability Principles and Standards;
- (f) implement emergency procedures and take such other coordination actions as may be necessary in accordance with the directions of the Office of the Interconnection in times of Emergencies; and

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- (g) maintain or arrange for Black Start Capability for a portion of its Capacity Resources at least equal to that established from time-to-time by the Office of the Interconnection.
- 9.2 Generator Planned Outage Scheduling. Each Party shall develop, or cause to be developed, its schedules of planned outages of its Capacity Resources. Such schedules of planned outages shall be submitted to the Office of the Interconnection for coordination with the schedules of planned outages of other Parties and anticipated transmission planned outages.
- 9.3 Data Submissions. Each Party shall submit to the Office of the Interconnection the data and other information necessary for the performance of this Agreement, including its plans for the addition, modification and removal of Capacity Resources, its load forecasts, and such other data set forth in Schedule 11.
- 9.4 Charges for Failures to Comply. (a) An emergency procedure charge, as set forth in Attachment DD to the PJM Tariff, shall be imposed on any Party that fails to comply with the directions of the Office of the Interconnection pursuant to Section 9.1(f)
- (b) A data submission charge, as set forth in Schedule 12, shall be imposed on any Party that fails to submit the data, plans or other information required by this Agreement in a timely or accurate manner as provided in Schedule 11.
- 9.5 Metering. Each Party shall comply with the metering standards for the PJM Region, as set forth in the PJM Manuals.

## **ARTICLE 10 -- SHARED COSTS**

- 10.1 Recording and Audit of Costs. (a) Any costs related to the performance of this Agreement, including the costs of the Office of the Interconnection and such other costs that the Members Committee determines are to be shared by the Parties, shall be documented and recorded in a manner acceptable to the Parties.
- (b) The Members Committee may require an audit of such costs; provided, however, the cost records shall be available for audit by any Member or State Consumer Advocate, at the sole expense of such Member or State Consumer Advocate, for 36 months following the end of the Planning Period in which the costs were incurred.
- 10.2 Cost Responsibility. The costs determined under Section 10.1(a) shall be allocated to and recovered from the Parties to this Agreement and other entities pursuant to Schedule 9-5 of the PJM Tariff.

#### ARTICLE 11 -- BILLING AND PAYMENT

11.1 Periodic Billing. Each Party shall receive a statement periodically setting forth (i) any amounts due from or to that Party as a result of any charges imposed pursuant to this Agreement and (ii) that Party's share of any costs allocated to that Party pursuant to Article 10.

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To the extent practical, such statements are to be coordinated with any billings or statements required pursuant to the Operating Agreement or PJM Tariff.

- 11.2 Payment. The payment terms and conditions shall be as set forth in the billing statement and shall, to the extent practicable, be the same as those then in effect under the PJM Tariff.
- 11.3 Failure to Pay. If any Party fails to pay its share of the costs allocated pursuant to Article 10, those unpaid costs shall be allocated to and paid by the other Parties hereto in proportion to the sum of the Daily Unforced Capacity Obligations of each such Party for the billing month. The Office of the Interconnection shall enforce collection of a Party's share of the costs.

## ARTICLE 12 -- INDEMNIFICATION AND LIMITATION OF LIABILITIES

- 12.1 Indemnification. (a) Each Party agrees to indemnify and hold harmless each of the other Parties, its officers, directors, employees or agents (other than PJM Interconnection, L.L.C., its board or the Office of the Interconnection) for all actions, claims, demands, costs, damages and liabilities asserted by third parties against the Party seeking indemnification and arising out of or relating to acts or omissions in connection with this Agreement of the Party from which indemnification is sought, except (i) to the extent that such liabilities result from the willful misconduct of the Party seeking indemnification and (ii) that each Party shall be responsible for all claims of its own employees, agents and servants growing out of any workmen's compensation law. Nothing herein shall limit a Party's indemnity obligations under Article 16 of the Operating Agreement.
- (including, without limitation, retroactively) by any insurance proceeds or other amounts actually recovered by the Party seeking indemnification in respect of the indemnified actions, claims, demands, costs, damages or liabilities. If any Party shall have received an indemnity payment in respect of an indemnified action, claim, demand, cost, damage, or liability and shall subsequently actually receive insurance proceeds or other amounts in respect of such action, claim, demand, cost, damage, or liability, then such Party shall pay to the Party that made such indemnity payment the lesser of the amount of such insurance proceeds or other amounts actually received and retained or the net amount of the indemnity payments actually received previously.
- 12.2 Limitations on Liability. No Party will be liable to another Party for any claim for indirect, incidental, special or consequential damage or loss of the other Party including, but not limited to, loss of profits or revenues, cost of capital or financing, loss of goodwill and cost of replacement power arising from such Party's carrying out, or failure to carry out, any obligations contemplated by this Agreement; provided, however, nothing herein shall be deemed to reduce or limit the obligation of any Party with respect to the claims of persons or entities not a party to this Agreement.
- 12.3 Insurance. Each Party shall obtain and maintain in force such insurance as is required of Load Serving Entities by the states in which it is doing business within the PJM Region.

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#### ARTICLE 13 - SUCCESSORS AND ASSIGNS

- 13.1 Binding Rights and Obligations. The rights and obligations created by this Agreement and all Schedules and supplements thereto shall inure to and bind the successors and assigns of the Parties; provided, however, no Party may assign its rights or obligations under this Agreement without the written consent of the Members Committee unless the assignee concurrently becomes the Load Serving Entity with regard to the end-users previously served by the assignor.
- 13.2 Consequences of Assignment. Upon the assignment of all of its rights and obligations hereunder to a successor consistent with the provisions of Section 13.1, the assignor shall be deemed to have withdrawn from this Agreement.

#### **ARTICLE 14 -- NOTICE**

Except as otherwise expressly provided herein, any notice required hereunder shall be in writing and shall be sent: overnight courier, hand delivery, telecopy or other reliable electronic means to the representative on the Members Committee of such Party at the address for such Party previously provided by such Party to the other Parties. Any notice shall be deemed to have been given (i) upon delivery if given by overnight courier, hand delivery or certified mail or (ii) upon confirmation if given by facsimile or other reliable electronic means.

# ARTICLE 15 -- REPRESENTATIONS AND WARRANTIES

- 15.1 Initial Representations and Warranties. Each Party represents and warrants to the other Parties that, as of the date it becomes a Party:
- (a) the Party is duly organized, validly existing and in good standing under the laws of the jurisdiction where organized;
- (b) the execution and delivery by the Party of this Agreement and the performance of its obligations hereunder have been duly and validly authorized by all requisite action on the part of the Party and do not conflict with any applicable law or with any other agreement binding upon the Party. The Agreement has been duly executed and delivered by the Party, and this Agreement constitutes the legal, valid and binding obligation of the Party enforceable against it in accordance with its terms except insofar as the enforceability thereof may be limited by applicable bankruptcy, insolvency, reorganization, fraudulent conveyance, moratorium or other similar laws affecting the enforcement of creditor's rights generally and by general principles of equity regardless of whether such principles are considered in a proceeding at law or in equity: and
- (c) there are no actions at law, suits in equity, proceedings or claims pending or, to the knowledge of the Party, threatened against the Party before or by any federal, state, foreign or local court, tribunal or governmental agency or authority that might materially delay, prevent or hinder the performance by the Party of its obligations hereunder.

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- 15.2 Continuing Representations and Warranties. Each Party represents and warrants to the other Parties that throughout the term of this Agreement:
  - (a) the Party is a Load Serving Entity;
  - (b) the Party satisfies the requirements of Schedule 2;
  - (c) the Party is in compliance with the Reliability Principles and Standards;
- (d) the Party is a signatory, or its principals are signatories, to the agreements set forth in Schedule 3;
  - (e) the Party is in good standing in the jurisdiction where incorporated; and
- (f) the Party will endeavor in good faith to obtain any corporate or regulatory authority necessary to allow the Party to fulfill its obligations hereunder.

## **ARTICLE 16 -- OTHER MATTERS**

- 16.1 Relationship of the Parties. This Agreement shall not be interpreted or construed to create any association, joint venture, or partnership between or among the Parties or to impose any partnership obligation or partnership liability upon any Party.
- 16.2 Governing Law. This Agreement shall be interpreted, construed and governed by the laws of the State of Delaware.
- 16.3 Severability. Each provision of this Agreement shall be considered severable and if for any reason any provision is determined by a court or regulatory authority of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions of this Agreement shall continue in full force and effect and shall in no way be affected, impaired or invalidated, and such invalid, void or unenforceable provision shall be replaced with valid and enforceable provision or provisions which otherwise give effect to the original intent of the invalid, void or unenforceable provision.
- 16.4 Amendment. This Agreement may be amended only by action of the PJM Board. Notwithstanding the foregoing, an Applicant eligible to become a Party in accordance with the procedures set forth in Article 4 shall become a Party by executing a counterpart of this Agreement without the need for execution of such counterpart by any other Party. The PJM Office of the Interconnection shall file with FERC any amendment to this Agreement approved by the PJM Board.
- 16.5 Headings. The article and section headings used in this Agreement are for convenience only and shall not affect the construction or interpretation of any of the provisions of this Agreement.
- 16.6 Confidentiality. (a) No Party shall have a right hereunder to receive or review any documents, data or other information of another Party, including documents, data or other

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information provided to the Office of the Interconnection, to the extent such documents, data or information have been designated as confidential pursuant to the procedures adopted by the Office of the Interconnection or to the extent that they have been designated as confidential by another Party; provided, however, a Party may receive and review any composite documents, data and other information that may be developed based on such confidential documents, data or information if the composite document does not disclose any individual Party's confidential data or information.

- (b) Notwithstanding anything in this Section to the contrary, if a Party is required by applicable laws, or in the course of administrative or judicial proceedings, to disclose information that is otherwise required to be maintained in confidence pursuant to this Section, that Party may make disclosure of such information; provided, however, that as soon as the Party learns of the disclosure requirement and prior to making disclosure, that Party shall notify the affected Party or Parties of the requirement and the terms thereof and the affected Party or Parties may direct, at their sole discretion and cost, any challenge to or defense against the disclosure requirement and the Party shall cooperate with such affected Parties to the maximum extent practicable to minimize the disclosure of the information consistent with applicable law. Each Party shall cooperate with the affected Parties to obtain proprietary or confidential treatment of such information by the person to whom such information is disclosed prior to any such disclosure.
- (c) Any contract with a contractor retained to provide technical support or to otherwise assist with the administration of this Agreement shall impose on that contractor a contractual duty of confidentiality that is consistent with this Section.
- 16.7 Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be an original but all of which together will constitute one instrument, binding upon all parties hereto, notwithstanding that all of such parties may not have executed the same counterpart.
- 16.8 No Implied Waivers. The failure of a Party to insist upon or enforce strict performance of any of the provisions of this Agreement shall not be construed as a waiver or relinquishment to any extent of such Party's right to assert or rely upon any such provisions, rights and remedies in that or any other instance; rather, the same shall be and remain in full force and effect.
- 16.9 No Third Party Beneficiaries. This Agreement is intended to be solely for the benefit of the Parties and their respective successors and permitted assigns and is not intended to and shall not confer any rights or benefits on any third party not a signatory hereto.
- 16.10 Dispute Resolution. Except as otherwise specifically provided in the Operating Agreement, disputes arising under this Agreement shall be subject to the dispute resolution provisions of the Operating Agreement.

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IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representatives.

[Signatures]

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## **SCHEDULE 1**

# PROCEDURES TO BECOME A PARTY

## A. Notice

Any entity that is or will become a Load Serving Entity within the PJM Region and thus a Party to the Reliability Assurance Agreement shall submit a notice to the Office of the Interconnection together with (i) its representation that it has satisfied or will (prior to the date the Reliability Assurance Agreement is to become effective as to that entity) satisfy the requirements to become a Party, (ii) all data required to coordinate planning and operations within the PJM Region as applicable, in a format defined in the PJM Manuals, and (iii) a deposit in an amount to be specified that will be applied toward the costs of the required analysis.

The required notice, representations, data and deposit must be submitted in sufficient time to conduct an analysis of the data submitted and to adjust the obligations of the Parties for the month in which the entity desires to become a Party:

- If the then existing boundaries of the PJM Region would be expanded by an entity becoming a Party, that entity shall submit the required notice, representation, data and deposit no later than when the entity applies for transmission service under the PJM Tariff.
- If an entity will serve load within the then existing boundaries of the PJM Region, that entity shall submit the required notice, representations, data and deposit as soon as possible prior to the month (i) in which it is to begin serving loads within the PJM Region or (ii) in which any agency relationship through which the entity's obligations under this Agreement had been satisfied is terminated; provided, however, that such submission shall not be required sooner than any request for transmission service or any change in the designation of Network Resources or points of receipt and loads under the PJM Tariff associated with providing service to those loads.

# B. Analysis of Data

The notice, representations and data submitted to the Office of the Interconnection are to be analyzed in accordance with procedures consistent with this Agreement and the encouragement of reliable operation of the PJM Region.

# C. Response

Upon completion of the analysis, the Office of the Interconnection will inform the entity of (a) the estimated costs and expenses associated with modifications to communication, computer and other facilities and procedures, including any filing fees, needed to include the entity as a Party, (b) the entity's share of any costs pursuant to Article 10, and (c) the earliest

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date upon which the entity could become a Party. In addition, a counterpart of the Agreement shall be forwarded for execution.

## D. Agreement by New Party

After receipt of the response from the Office of the Interconnection, the entity shall identify its representative to the Members Committee and Markets and Reliability Committee and execute the counterpart of the Agreement, indicating the desired effective date; provided, however, such effective date shall be the first day of a month, may be no earlier than the date indicated in the response from the Office of the Interconnection and shall be no later than (i) the date on which the entity begins serving loads within the PJM Region or (ii) the termination date of any agency relationship through which its obligations under this Agreement had been satisfied. The executed counterpart of the Agreement, together with payment of its share of any costs then due, shall be returned as directed by the Office of the Interconnection.

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## **SCHEDULE 2**

# STANDARDS FOR INTEGRATING AN ENTITY INTO THE PJM REGION

- A. The following standards will be applied by the Office of the Interconnection to determine the eligibility of an entity to become a part of the PJM Region. For an entity to be integrated into the PJM Region it must possess generation and transmission attributes that would enable the entity to share its reserves with other entities in the PJM Region. Appropriate transmission and reliability studies are to be performed to determine the adequate transmission capability necessary to integrate the entity into the PJM Region consistent with Good Utility Practice.
- B. In addition, the entity shall meet the following requirements to be included in the PJM Region:
  - 1. All load, generation and transmission operating as part of the PJM Region's interconnected system must be included within the metered boundaries of the PJM Region.
  - 2. The entity will accept and comply with the PJM Region's standards with respect to system design, equipment ratings, operating practices and maintenance practices as set forth in the PJM Manuals so that sufficient electrical equipment, control capability, information and communication are available to the Office of the Interconnection for planning and operation of the PJM Region.
  - 3. The load, generation and transmission facilities of each entity shall be included in the telemetry to the Office of the Interconnection from a 24-hour control center. Each system operator in these control centers must be trained and delegated sufficient authority to take any action necessary to assure that the system for which the operator is responsible is operated in a stable and reliable manner.
  - 4. Each entity must have compatible operational communication mechanisms, maintained at its expense, to interact with the Office of the Interconnection and for internal requirements.
  - 5. Each entity must assure the continued compatibility of its local system energy management system monitoring and telecommunications systems to satisfy the technical requirements of interacting with the Office of the Interconnection as it directs the operation of the PJM Region.

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## **SCHEDULE 3**

# OTHER AGREEMENTS TO BE EXECUTED BY THE PARTIES

- Any agreement for Network Transmission Service or Firm Point-To-Point Service that is required under the PJM Tariff for service consistent with the requirements of Section 9.1(d); and
- The Operating Agreement.

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## **SCHEDULE 4**

# GUIDELINES FOR DETERMINING THE FORECAST POOL REQUIREMENT

# A. Objective Of The Forecast Pool Requirement

The Forecast Pool Requirement shall be determined for the specified Planning Periods to establish the level of Capacity Resources that will provide an acceptable level of reliability consistent with the Reliability Principles and Standards.

# B. Forecast Pool Requirement and PJM Region Installed Reserve Margin To Be Determined Annually

No later than three months in advance of each Base Residual Auction for a Delivery Year, based on the projections described in section C of this Schedule, and after consideration of the recommendation of the Members Committee, the PJM Board shall establish the Forecast Pool Requirement, including the PJM Region Installed Reserve Margin for all Parties, including FRR Entities, for such Delivery Year. Unless otherwise agreed by the PJM Board, the Forecast Pool Requirement and PJM Region Installed Reserve Margin for such Planning Period shall be considered firm and not subject to re-determination thereafter.

# C. Methodology

Each year, the Forecast Pool Requirement for at least each of the next five Planning Periods shall be projected by applying suitable probability methods to the data and forecasts provided by the Parties and obtained from Electric Distributors, as described in Schedule 11, the Operating Agreement and in the PJM Manuals. The projection of the Forecast Pool Requirement shall consider the following data and forecasts as necessary:

- 1. Seasonal peak load forecasts for each Planning Period as calculated by PJM in accordance with the PJM Manuals reflecting (a) load forecasts with a 50 percent probability of being too high or too low and (b) summer peak diversities determined by the Office of the Interconnection from recent experience.
- 2. Forecasts of aggregate seasonal load shape of the Parties which are consistent with forecast averages of 52 weekly peak loads prepared by the Parties and obtained from Electric Distributors for their respective systems.
- 3. Variability of loads within each week, due to weather and other recurring and random factors, as determined by the Office of the Interconnection.
- 4. Generating unit capability and types for every existing and proposed unit.
- 5. Generator Forced Outage rates for existing mature generating units, as determined by the Office of the Interconnection, based on data submitted by the Parties for their respective systems, from recent experience, and for immature and proposed

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units based upon forecast rates related to unit types, capabilities and other pertinent characteristics.

- 6. Generator Maintenance Outage factors and planned outage schedules as determined by the Office of the Interconnection based on forecasts and historical data submitted by the Parties for their respective systems.
- 7. Miscellaneous adjustments to capacity due to all causes, as determined by the Office of the Interconnection, based on forecasts submitted by the Parties for their respective systems.
- 8. The emergency capacity assistance available as a function of interconnections of the PJM Region with other Control Areas, as limited by the capacity benefit margin considered in the determination of available transfer capability and the probable availability of generation in excess of load requirements in such areas.

## D. Capacity Benefit Margin

The capacity benefit margin initially shall be 3,500 megawatts. Periodically, in consultation with the Members Committee, the Office of the Interconnection shall review and modify, if necessary, the capacity benefit margin to balance external emergency capacity assistance and internal installed capacity reserves so as to minimize the total cost of the capacity reserves of the Parties, consistent with the Reliability Principles and Standards. The Office of the Interconnection will reflect such modification prospectively in its development of the Forecast Pool Requirement for future Planning Periods.

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#### **SCHEDULE 4.1**

# **DETERMINATION OF THE FORECAST POOL REQUIREMENT**

A. Based on the guidelines set forth in Schedule 4, the Forecast Pool Requirement shall be determined as set forth in this Schedule 4.1 on an unforced capacity basis.

FPR = (1 + IRM/100) \* (1 - Pool-wide average EFOR<sub>D</sub>/100)

where

average EFOR<sub>D</sub> = the average equivalent demand forced outage rate for the PJM Region, stated in percent and determined in accordance with Section B hereof

IRM - the PJM Region Installed Reserve Margin approved by the PJM Board for that Planning Period, stated in percent

B. The PJM Region equivalent demand forced outage rate ("average EFOR<sub>D</sub>") shall be determined as the capacity weighted EFOR<sub>D</sub> for all units expected to serve loads within the PJM Region during the Delivery Year, as determined pursuant to Schedule 5.

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# SCHEDULE 5 FORCED OUTAGE RATE CALCULATION

A. The equivalent demand forced outage rate ("EFOR<sub>D</sub>") shall be calculated as follows:

 $EFOR_D(\%) = \{(f_f * FOH + f_p * EFPOH) / (SH + f_f * FOH)\} * 100$ 

where

 $f_f$  – full outage factor  $f_p$  = partial outage factor FOH = full forced outage hours EFPOH = equivalent forced partial outage hours SH = service hours

B. Calculation of EFOR<sub>D</sub> for individual Generation Capacity Resources.

For each Delivery Year, EFOR<sub>D</sub> shall be calculated at least one month prior to the start of the Third Incremental Auction for: (i) each Generation Capacity Resource for which a sell offer will be submitted in such Third Incremental Auction; and (ii) each Generation Capacity Resource previously committed to serve load in such Delivery Year pursuant to an FRR Capacity Plan or prior auctions for such Delivery Year. Such calculation shall be based upon such resource's service history in the twelve (12) consecutive months ending September 30 last preceding such auction. Historical data shall be based on official reports of the Parties under rules and practices set forth in the PJM Manuals. Such rate shall also include (i) an adjustment, if any, for capacity unavailable due to energy limitations determined in accordance with definitions and criteria set forth in the PJM Manuals and (ii) any other adjustments approved by the Members Committee to adjust the parameters of a designated unit. For purposes of the calculations under this Paragraph B, outages deemed to be outside plant management control in accordance with NERC guidelines shall not be considered.

- 1. The EFOR<sub>D</sub> of a unit in service twelve or more full calendar months prior to the calculation month shall be the average rate experienced by such unit during the twelve-month period specified above. Historical data shall be based on official reports of the Parties under rules and practices set forth in the PJM Manuals.
- 2. The EFOR<sub>D</sub> of a unit in service at least one full calendar month but less than the twelve-month period specified above shall be the average of the EFOR<sub>D</sub> experienced by the unit weighted by full months of service, and the class average rate for units with that capability and of that type weighted by a factor of [(twelve) minus (the number of months the unit was in service)]. Historical data shall be based on official reports of the Parties under rules and practices set forth in the PJM Manuals.
- C. Calculation of average EFOR<sub>D</sub> for the PJM Region

The forecast average EFOR<sub>D</sub> for the PJM Region in a Delivery Year shall be the average of the forced outage rates, weighted for unit capability and expected time in service,

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attributable to all of the Generation Capacity Resources within the PJM Region, that are planned to be in service during the Delivery Year, including Generation Capacity Resources purchased from specified units and excluding Generation Capacity Resources sold outside the PJM Region from specified units. Such rate shall also include (i) an adjustment, if any, for capacity unavailable due to energy limitations determined in accordance with definitions and criteria set forth in the PJM Manuals and (ii) any other adjustments developed by the Office of Interconnection and maintained in the PJM Manuals to adjust the parameters of a designated unit when such parameters are or will be used to determine a future PJM Region reserve requirement and such adjustment is required to more accurately predict the future performance of such unit in light of extraordinary circumstances. For the purposes of this Schedule, the average EFOR<sub>D</sub> shall be the average of the capacity-weighted EFOR<sub>D</sub> of all units committed to serve load in the PJM Region; and for purposes of the EFOR<sub>D</sub> calculations under this Paragraph C, outages deemed to be outside plant management control in accordance with NERC guidelines shall be considered. All rates shall be in percent.

- 1. The EFOR<sub>D</sub> of a unit not yet in service or which has been in service less than one full calendar year at the time of forecast shall be the class average rate for units with that capability and of that type, as estimated and used in the calculation of the Forecast Pool Requirement.
- 2. The EFORD of a unit in service five or more full calendar years at the time of forecast shall be the average rate experienced by such unit during the five most recent calendar years. Historical data shall be based on official reports of the Parties under rules and practices developed by the Office of Interconnection and maintained in the PJM Manuals.
- 3. The EFORD of a unit in service at least one full calendar year but less than five full calendar years at the time of the forecast shall be determined as follows:

## Full Calendar Years of Service

I	plus four-fifths the class average rate.
2	Two-fifths the average rate experienced during the two calendar years, plus three-fifths the class average rate.
3	Three-fifths the average rate experienced during the three calendar years, plus two-fifths the class average rate.
4	Four-fifths the average rate experienced during the four

One-fifth the rate experienced during the calendar year

calendar years, plus one-fifth the class average rate.

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#### **SCHEDULE 6**

#### PROCEDURES FOR DEMAND RESOURCES AND ILR

- A. Parties can partially or wholly offset the amounts payable for the Locational Reliability Charge with Demand Resources or ILR 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. In addition, resources qualifying under the criteria set forth below may be certified as ILR on behalf of a Party that has not elected the FRR Alternative for a Delivery Year no later than three months prior to the first day of such Delivery Year. Qualified Demand Resources and ILR may be provided by a Demand Resource Provider or ILR Provider, notwithstanding that such provider is not a Party to this Agreement.
  - 1. A Party must formally notify, in accordance with the requirements of the PJM Manuals and paragraph G of this schedule as applicable, the Office of the Interconnection of the Demand Resource or ILR that it is placing under the direction of the Office of the Interconnection.
  - 2. A Party must agree to reserve, for interruption at the direction of the Office of the Interconnection, at least 10 interruptions per Planning Period.
  - 3. The Demand Resource or ILR must be available during the summer period of June through September in the corresponding Delivery Year to be certified, offered for sale or Self-Supplied in an auction, or included as Demand Response in an FRR Capacity Plan for the corresponding Delivery Year.
  - 4. A period of no more than 2 hours prior notification must apply to interruptible customers.
  - 5. The initiation of load interruption, 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.
  - 6. The initiation of load reduction upon the request of the Office of the Interconnection is considered an emergency action and must be implementable prior to a voltage reduction.
  - 7. A Party must agree to reserve interruptions of at least 6-hour duration. As a minimum, such 6-hour duration for interruptions should be available on weekdays during the 8-hour daily peak window for the appropriate season. There will be no credit given to Parties who choose to provide interruption less than 6 hours and/or exclusive of the above time period.

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- 8. An entity offering for sale, designating for self-supply, or including in any FRR Capacity Plan any Planned Demand Resource must demonstrate, in accordance with standards and procedures set forth in the PJM Manuals, 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.
- B. The Unforced Capacity value of a Demand Resource and ILR will be determined as:

the product of the Nominated Value of the Demand Resource, or the Nominated Value of the ILR, times the DR Factor, times the Forecast Pool Requirement. The DR Factor is a factor established by the PJM Board with the advice of the Members Committee to reflect the increase in the peak load carrying capability in the PJM Region due to Demand Resources and ILR for the PJM Region divided by the total Nominated Value of Demand Resources and ILR in the PJM Region. The DR Factor will be determined using an analytical program that uses a probabilistic approach to determine reliability. The determination of the DR Factor will consider the reliability of Demand Resources and ILR, the number of interruptions, and the total amount of load reduction. The detailed procedures used for calculating the DR Factor shall be set forth in 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 determined in such auction, in accordance with Attachment DD of the PJM Tariff.
- D. Certified ILR resources shall receive the Adjusted Zonal Capacity Price, less the amount paid in CTR credits per MW of load in the Zone in which such resource is offered, in accordance with Attachment DD of the PJM Tariff.
- E. The Party, Electric Distributor, Demand Resource Provider, or ILR 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 sections C and D for a committed Demand Resource or certified ILR, notwithstanding that such provider is not the customer's energy supplier.
- F. Any Party hereto shall demonstrate that its Demand Resources or ILR 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. In addition, committed Demand Resources and certified ILR 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 Attachment DD to the PJM Tariff.

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G. 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.

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#### **SCHEDULE 7**

#### PLANS TO MEET OBLIGATIONS

- A. Each Party that elects to meet its estimated obligations for a Delivery Year by Self-Supply of Capacity Resources shall submit to the Office of the Interconnection, no later than one month prior to the start of the Base Residual Auction for such Delivery Year, its plans for such Capacity Resources, including (1) installation of Generation Capacity Resources (2) purchases, and (3) installation of Demand Resources or ILR.
- B. The Capacity Resource plans of each Party shall indicate the nature and current status of each resource, including the status of a Planned Generation Capacity Resource or Planned Demand Resource, the potential for deactivation or retirement of a Generation Capacity Resource or Demand Resource, and the status of commitments for each sale or purchase of capacity included in its plans. The Office of the Interconnection will review the adequacy of the submittals hereunder both as to timing and content.
- C. A Party that Self-Supplies Capacity Resources to satisfy its obligations for a Delivery Year must submit a Sell Offer as to such resource in the Base Residual Auction for such Delivery Year, in accordance with Attachment DD to the PJM Tariff.
- D. If, at any time after the close of the Third Incremental Auction for a Delivery Year, including at any time during such Delivery Year, a Capacity Resource that a Party has committed as a Self-Supplied Capacity Resource becomes physically incapable of delivering capacity or reducing load, the Party may submit a replacement Capacity Resource to the Office of the Interconnection. Such replacement Capacity Resource (1) may not be previously committed for such Delivery Year, (2) shall be capable of providing the same quantity of megawatts of capacity or load reduction as the originally committed Capacity Resource, and (3) shall be located in the same Locational Deliverability Area, if applicable, as the originally committed resource. In accordance with Attachment DD to the PJM Tariff, the Office of the Interconnection shall determine the acceptability of the replacement Capacity Resource.

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#### SCHEDULE 8

#### **DETERMINATION OF UNFORCED CAPACITY OBLIGATIONS**

A. For each billing month during a Delivery Year, the Daily Unforced Capacity Obligation of a Party that has not elected the FRR Alternative for such Delivery Year shall be determined on a daily basis for each Zone as follows:

Daily Unforced Capacity Obligation = OPL x Final Zonal RPM Scaling Factor x FPR

Where:

OPL -

Obligation Peak Load, defined as the daily summation of the weather-adjusted coincident summer peak, last preceding the Delivery Year, of the end-users in such Zone (net of operating Behind The Meter Generation, but not to be less than zero) for which such Party was responsible on that billing day, as determined in accordance with the procedures set forth in the PJM Manuals

Final Zonal RPM Scaling Factor = the factor determined as set forth in sections B and C of this Schedule

FPR = the Forecast Pool Requirement

Netting of Behind the Meter Generation for a Party with regard to Non-Retail Behind the Meter Generation shall be subject to the following limitation:

For the 2006/2007 Planning Period, 100 percent of the operating Non-Retail Behind the Meter Generation shall be netted, provided that the total amount of Non-Retail Behind the Meter Generation in the PJM Region does not exceed 1500 megawatts ("Non-Retail Threshold"). For each Planning Period/Delivery Year thereafter, the Non-Retail threshold shall be proportionately increased based on load growth in the PJM Region but shall not be greater than 3000 megawatts. Load growth shall be determined by the Office of the Interconnection based on the most recent forecasted weather-adjusted coincident summer peak for the PJM Region divided by the weather-adjusted coincident peak for the previous summer for the same area. After the load growth factor is applied, the Non-Retail Threshold will be rounded up or down to the nearest whole megawatt and the rounded number shall be the Non-Retail Threshold for the current Planning Period and the base amount for calculating the Non-Retail Threshold for the succeeding planning period. If the Non-Retail Threshold is exceeded, the amount of operating Non-Retail Behind the Meter Generation that a Party may net shall be adjusted according to the following formula:

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Party Netting Credit = (NRT/ PJM NRBTMG) \* Party Operating NRBTMG

Where: NRBTMG is Non-Retail Behind the Meter Generation

NRT is the Non-Retail Threshold

PJM NRBTMG is the total amount of Non-Retail Behind the Meter Generation in the PJM Region

The total amount of Non-Retail Behind the Meter Generation that is eligible for netting in the PJM Region is 3000 megawatts. Once this 3000 megawatt limit is reached, any additional Non-Retail Behind the Meter Generation which operates in the PJM Region will be ineligible for netting under this section.

In addition, the Party NRBTMG Netting Credit shall be adjusted pursuant to Schedule \_\_\_ of this Agreement, if applicable.

A Party shall be required to report to PJM such information as is required to facilitate the determination of its NRBTMG Netting Credit in accordance with the procedures set forth in the PJM Manuals.

B. Following the Base Residual Auction for a Delivery Year, the Office of the Interconnection shall determine the Base Zonal RPM Scaling Factor and the Base Zonal Unforced Capacity Obligation for each Zone for such Delivery Year as follows:

Base Zonal Unforced Capacity Obligation = (ZWNSP \* Base Zonal RPM Scaling Factor \* FPR) + Forecast Zonal ILR Obligation

and

Base Zonal RPM Scaling Factor = ZPLDY/ZWNSP x [RUCO / (RPLDY x FPR)]

Where:

ZPLDY = Preliminary Zonal Peak Load Forecast for such Delivery Year

ZWNSP = Zonal Weather-Normalized Summer Peak for the summer season concluding four years prior to the commencement of such Delivery Year

RUCO = the RTO Unforced Capacity Obligation satisfied in the Base Residual Auction for such Delivery Year.

RPLDY = RTO Preliminary Peak Load Forecast for such Delivery Year.

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For purposes of such determination, PJM shall determine the Preliminary RTO Peak Load Forecast, and the Preliminary Zonal Peak Load Forecasts for each Zone, in accordance with the PJM Manuals for each Delivery Year no later than one month prior to the Base Residual Auction for such Delivery Year. PJM shall determine the Final RTO and Zonal Peak Load Forecasts in accordance with the PJM Manuals for each Delivery Year no later than one month prior to the Second Incremental Auction for such Delivery Year; provided, however, that if the Second Incremental Auction is not conducted, the Preliminary RTO and Zonal Peak Load Forecasts for the Delivery Year shall be the Final RTO and Zonal Peak Load Forecasts, respectively, for such year. PJM shall determine the most recent Weather Normalized Summer Peak for each Zone no later than seven months prior to the start of the Delivery Year, and shall calculate the RTO Weather Normalized Summer Peak as the sum of the Weather Normalized Summer Peaks for all Zones.

- C. The Final RTO Unforced Capacity Obligation for a Delivery Year shall be equal to the sum of (i) the unforced capacity obligations satisfied through the Base Residual Auction and the Second Incremental Auction, if held, and (ii) the Forecast RTO ILR Obligation for such Delivery Year. The Final Zonal Unforced Capacity Obligation shall be equal to the sum of (i) the Base Zonal Unforced Capacity Obligation, and (ii) the unforced capacity obligation satisfied in the Second Incremental Auction times (the increase in the Final Zonal Peak Load Forecast from the Preliminary Zonal Peak Load Forecast divided by the increase in the RTO Final Peak Load Forecast from the RTO Preliminary Peak Load Forecast). If a Second Incremental Auction is not conducted, the Final Zonal Unforced Capacity Obligation shall be equal to the Base Zonal Unforced Capacity Obligation. The Final Zonal RPM Scaling Factor shall be equal to the Final Zonal Unforced Capacity Obligation divided by (FPR times the Zonal Weather Normalized Summer Peak for the summer concluding prior to the commencement of such Delivery Year).
- D. 1. No later than five months prior to the start of each Delivery Year, the Electric Distributor for a Zone shall allocate the most recent Weather Normalized Summer Peak for such Zone to determine the Obligation Peak Load for each end-use customer within such Zone.
  - 2. During the Delivery Year, no later than 36 hours prior to the start of each operating day, the Electric Distributor shall provide to PJM for each Party to this Agreement serving load in such Electric Distributor's Zone the Obligation Peak Load for all end-use customers served by such Party in such Zone. The daily Unforced Capacity Obligation of a Party for such Operating Day shall not be subject to change thereafter.
  - 3. For purposes of such allocations, the daily sum of the Obligation Peak Loads of all Parties serving load in a Zone must equal the Zonal Obligation Peak Load for such Zone.

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#### SCHEDULE 8.1

## FIXED RESOURCE REQUIREMENT ALTERNATIVE

A. The Fixed Resource Requirement ("FRR") Alternative provides an alternative means, under the terms and conditions of this Schedule, for an eligible Load-Serving Entity to satisfy its obligation hereunder to commit Unforced Capacity to ensure reliable service to loads in the PJM Region.

## B. Eligibility

- 1. Except as provided in subsection B.3 below, a Party is eligible to select the FRR Alternative if it (a) is an IOU, Electric Cooperative, or Public Power Entity; and (b) demonstrates the capability to satisfy the Unforced Capacity obligation for all load in an FRR Service Area, including all expected load growth in such area, for the term of such Party's participation in the FRR Alternative.
- 2. A Party eligible under B.1 above may select the FRR Alternative only as to all of its load in the PJM Region; provided however, that a Party may select the FRR Alternative for only part of its load in the PJM Region if (a) the Party elects the FRR Alternative for all load (including all expected load growth) in one or more FRR Service Areas; (b) the Party complies with the rules and procedures of the Office of the Interconnection and all relevant Electric Distributors related to the metering and reporting of load data and settlement of accounts for separate FRR Service Areas; and (c) the Party separately allocates its Capacity Resources to and among FRR Service Areas in accordance with rules specified in the PJM Manuals.
- 3. Single Customer LSEs as identified in accordance with subsection B.3.a below shall be eligible to elect the FRR Alternative upon the terms and conditions of this Schedule and the following additional terms and conditions. The aggregate Obligation Peak Load of all Single Customer LSEs electing the FRR Alternative in the PJM Region shall not exceed 1000 MW.
  - a) Single-Customer LSEs eligible for the FRR Alternative shall be limited to those that (i) signed that certain Settlement Agreement dated September 29, 2006 in FERC Docket Nos. ER05-1410 and EL05-148 (or is an entity that was a named member of an association or coalition that was a signatory to such settlement and did not file or join in any comments opposing such settlement); and (ii) elected the FRR Alternative on or before April 1, 2008. The Office of the Interconnection, as necessary, shall establish and post in the PJM Manuals open-season procedures to apportion the maximum allowed service under the FRR Alternative among interested Single-Customer LSEs.
  - b) The Single-Customer LSE must install and maintain wholesale metering at each location that is monitored by, and regularly reported to, the Office of the Interconnection.
  - e) Each Single-Customer LSE warrants that (i) it has and shall maintain and enforce the contract right during the term of its election of the FRR Alternative to prohibit

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its retail customer(s) from terminating service from the Single-Customer LSE and obtaining such service from a different LSE; and (ii) it has and shall maintain for such term Financial Security or a Corporate Guaranty, both as defined in Attachment Q to the PJM Tariff, in an amount sufficient to cover any charge assessed under subsection B.3.e. A Single-Customer LSE will not violate its requirement under this subsection in the event that the retail customer terminates its service from the Single-Customer LSE and obtains service from an LSE that is an FRR Entity, provided that the Single-Customer LSE assigns Capacity Resources to the LSE providing such service in an amount equal to the Daily Unforced Capacity Obligation related to such retail customer.

- d) Each Single-Customer LSE shall obtain from its retail customer(s) and provide to the Office of the Interconnection and the entity designated under state law, order, or rule as such customer's default service provider or provider of last resort and the Electric Distributor a written statement agreeing that in the event such customer terminates its service from the Single-Customer LSE and obtains such service from a Party that is not an FRR Entity, then such customer's load shall be treated as ILR for the remaining duration of the period for which such Single-Customer LSE had elected the FRR Alternative, that for such purpose the Electric Distributor is authorized to obtain certification of such load as ILR, and that the customer agrees to provide the Electric Distributor with all information required for such certification. Nothing in this provision shall preclude such customer from using its owned or controlled generation to facilitate the interruption of its load as ILR.
- e) A Single-Customer LSE shall be assessed an Unauthorized Load Transfer Charge in the event such LSEs retail customer terminates its service from such LSE and obtains service from a Party that has not elected the FRR Alternative, or in the event such load transfer occurs to a Party that has elected the FRR Alternative, but the Single-Customer LSE does not transfer sufficient Capacity Resources as required by subsection B.3.c. Such charge shall equal two times the Cost of New Entry times the Daily Unforced Capacity Obligation related to such customer for the remaining duration of the period for which such Single-Customer LSE elected the FRR Alternative.
- f) Each Single Customer LSE shall provide to the Office of the Interconnection an FRR Capacity Plan in accordance with this schedule. Such FRR Capacity Plan, in addition to complying with all other applicable requirements of this Schedule, shall identify and commit for at least five delivery years Capacity Resources sufficient to satisfy such LSEs Daily Unforced Capacity Obligations hereunder consisting of generation assets or physical supply contracts that qualify as a 'forward contract' or a 'commodity contract' under the U.S. Bankruptcy Code. Each Single-Customer LSE warrants that all generation assets and forward supply contracts included in its FRR Capacity Plan shall be assigned to any successor-in-interest of its retail customer(s)'s assets and operations

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

- 1. No less than two 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.
- 2. An FRR Entity may terminate its election of the FRR Alternative effective with the commencement of any Delivery Year following the minimum five Delivery Year commitment by providing written notice of such termination to the Office of the Interconnection no later than two months prior to the Base Residual Auction for such Delivery Year. An FRR Entity that has terminated its election of the FRR Alternative shall not be eligible to re-elect the FRR Alternative for a period of five consecutive Delivery Years following the effective date of such termination.
- 3. Notwithstanding subsections C.1 and C.2 of this Schedule, in the event of a State Regulatory Structural Change, a Party may elect, or terminate its election of, the FRR Alternative effective as to any Delivery Year by providing written notice of such election or termination to the Office of the Interconnection in good faith as soon as the Party becomes aware of such State Regulatory Structural Change but in any event no later than two months prior to the Base Residual Auction for such Delivery Year.
- 4. To facilitate the elections and notices required by this Schedule, the Office of the Interconnection shall post, in addition to the information required by Section 5.11(a) of Attachment DD to the PJM Tariff, the percentage of Capacity Resources required to be located in each Locational Deliverability Area by no later than one month prior to the deadline for a Party to provide such elections and notices.

#### D. FRR Capacity Plans

- 1. Each FRR Entity shall submit its initial FRR Capacity Plan as required by subsection C.1 of this Schedule, and shall annually extend and update such plan by no later than one month prior to the Base Residual Auction for each succeeding Delivery Year in such plan. Each FRR Capacity Plan shall indicate the nature and current status of each resource, including the status of each Planned Generation Capacity Resource or Planned Demand Resource, the planned deactivation or retirement of any Generation Capacity Resource or Demand Resource, and the status of commitments for each sale or purchase of capacity included in such plan.
- 2. The FRR Capacity Plan of each FRR Entity that commits that it will not sell surplus Capacity Resources as a Capacity Market Seller in any auction conducted under Attachment DD of the PJM Tariff, or to any direct or indirect purchaser that uses such resource as the basis of any Sell Offer in such auction, shall designate Capacity Resources in a megawatt quantity no less than the Forecast Pool Requirement for each applicable Delivery Year times the FRR Entity's allocated share of the Preliminary Zonal Peak Load Forecast for such Delivery

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Year, as determined in accordance with procedures set forth in the PJM Manuals. If the FRR Entity is not responsible for all load within a Zone, the Preliminary Forecast Peak Load for such entity shall be the FRR Entity's Obligation Peak Load last determined prior to the Base Residual Auction for such Delivery Year, times the Base FRR Scaling Factor. The FRR Capacity Plan of each FRR Entity that does not commit that it will not sell surplus Capacity Resources as set forth above shall designate Capacity Resources at least equal to the Threshold Quantity. To the extent the FRR Entity's allocated share of the Final Zonal Peak Load Forecast exceeds the FRR Entity's allocated share of the Preliminary Zonal Peak Load Forecast, such FRR Entity's FRR Capacity Plan shall be updated to designate additional Capacity Resources in an amount no less than the Forecast Pool Requirement times such increase; provided, however, any excess megawatts of Capacity Resources included in such FRR Entity's previously designated Threshold Quantity, if any, may be used to satisfy the capacity obligation for such increased load.

3. As to any FRR Entity, the Base Zonal FRR Scaling Factor for each Zone in which it serves load for a Delivery Year shall equal ZPLDY/ZWNSP, where:

ZPLDY - Preliminary Zonal Peak Load Forecast for such Zone for such Delivery Year; and

ZWNSP = Zonal Weather-Normalized Summer Peak Load for such Zone for the summer concluding four years prior to the commencement of such Delivery Year.

- 4. Capacity Resources identified and committed in an FRR Capacity Plan shall meet all requirements under this Agreement and the PJM Operating Agreement applicable to Capacity Resources, including, as applicable, requirements and milestones for Planned Generation Capacity Resources and Planned Demand Resources. A Capacity Resource submitted in an FRR Capacity Plan must be on a unit-specific basis, and may not include "slice of system" or similar agreements that are not unit specific. An FRR Capacity Plan may include bilateral transactions that commit capacity for less than a full Delivery Year only if the resources included in such plan in the aggregate satisfy all obligations for all Delivery Years. All demand response, load management or similar programs on which such FRR Entity intends to rely for a Delivery Year must be included in the FRR Capacity Plan submitted three years in advance of such Delivery Year and must satisfy all requirements applicable to Demand Resources, including, without limitation, those set forth in Schedule 6 to this Agreement; provided, however, that previously uncommitted Unforced Capacity from such programs may be used to satisfy any increased capacity obligation for such FRR Entity resulting from a Final Zonal Peak Load Forecast applicable to such FRR Entity.
- 5. For each LDA for which the Office of the Interconnection has established a separate Variable Resource Requirement Curve for any Delivery Year addressed by such FRR Capacity Plan, the plan must include a minimum percentage of Capacity Resources for such Delivery Year located within such LDA. Such minimum percentage ("Percentage Internal Resources Required") will be calculated as the LDA Reliability Requirement less the CETL for the Delivery Year, as determined by the RTEP process as set forth in the PJM Manuals. Such requirement shall be expressed as a percentage of the Unforced Capacity Obligation based on the Preliminary Zonal Peak Load Forecast multiplied by the Forecast Pool Requirement.

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- 6. An FRR Entity may reduce such minimum percentage as to any LDA to the extent the FRR Entity commits to a transmission upgrade that increases the capacity emergency transfer limit for such LDA. Any such transmission upgrade shall adhere to all requirements for a Qualified Transmission Upgrade as set forth in Attachment DD to the PJM Tariff. The increase in CETL used in the FRR Capacity Plan shall be that approved by PJM prior to inclusion of any such upgrade in an FRR Capacity Plan. The FRR Entity shall designate specific additional Capacity Resources located in the LDA from which the CETL was increased, to the extent of such increase.
- 7. The Office of the Interconnection will review the adequacy of all submittals hereunder both as to timing and content. A Party that seeks to elect the FRR Alternative that submits an FRR Capacity Plan which, upon review by the Office of the Interconnection, is determined not to satisfy such Party's capacity obligations hereunder, shall not be permitted to elect the FRR Alternative. If a previously approved FRR Entity submits an FRR Capacity Plan that, upon review by the Office of the Interconnection, is determined not to satisfy such Party's capacity obligations hereunder, the Office of the Interconnection shall notify the FRR Entity, in writing, of the insufficiency within five (5) business days of the submittal of the FRR Capacity Plan. If the FRR Entity does not cure such insufficiency within five (5) business days after receiving such notice of insufficiency, then such FRR Entity shall be assessed an FRR Commitment Insufficiency Charge, in an amount equal to two times the Cost of New Entry for the relevant location, in S/MW-day, times the shortfall of Capacity Resources below the FRR Entity's capacity obligation (including any Threshold Quantity requirement) in such FRR Capacity Plan, for the remaining term of such plan.
- 8. In a state regulatory jurisdiction that has implemented retail choice, the FRR Entity must include in its FRR Capacity Plan all load, including expected load growth, in the FRR Service Area, notwithstanding the loss of any such load to or among alternative retail LSEs. In the case of load reflected in the FRR Capacity Plan that switches to an alternative retail LSE, where the state regulatory jurisdiction requires switching customers or the LSE to compensate the FRR Entity for its FRR capacity obligations, such state compensation mechanism will prevail. In the absence of a state compensation mechanism, the applicable alternative retail LSE shall compensate the FRR Entity at the capacity price in the unconstrained portions of the PJM Region, as determined in accordance with Attachment DD to the PJM Tariff, provided that the FRR Entity may, at any time, make a filing with FERC under Sections 205 of the Federal Power Act proposing to change the basis for compensation to a method based on the FRR Entity's cost or such other basis shown to be just and reasonable, and a retail LSE may at any time exercise its rights under Section 206 of the FPA.
- 9. Notwithstanding the foregoing, in lieu of providing the compensation described above, such alternative retail LSE may, for any Delivery Year subsequent to those addressed in the FRR Entity's then-current FRR Capacity Plan, provide to the FRR Entity Capacity Resources sufficient to meet the capacity obligation described in paragraph D.2 for the switched load. Such Capacity Resources shall meet all requirements applicable to Capacity Resources pursuant to this Agreement and the PJM Operating Agreement, all requirements applicable to resources committed to an FRR Capacity Plan under this Agreement, and shall be committed to service to the switched load under the FRR Capacity Plan of such FRR Entity. The alternative retail LSE shall provide the FRR Entity all information needed to fulfill these requirements and permit the

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resource to be included in the FRR Capacity Plan. The alternative retail LSE, rather than the FRR Entity, shall be responsible for any performance charges or compliance penalties related to the performance of the resources committed by such LSE to the switched load. For any Delivery Year, or portion thereof, the foregoing obligations apply to the alternative retail LSE serving the load during such time period. PJM shall manage the transfer accounting associated with such compensation and shall administer the collection and payment of amounts pursuant to the compensation mechanism.

Such load shall remain under the FRR Capacity Plan until the effective date of any termination of the FRR Alternative and, for such period, shall not be subject to Locational Reliability Charges under Section 7.2 of this Agreement.

## E. Conditions on Purchases and Sales of Capacity Resources by FRR Entities

- 1. An FRR Entity may not include in its FRR Capacity Plan for any Delivery Year any Capacity Resource that has cleared in any auction under Attachment DD of the PJM Tariff for such Delivery Year. Nothing herein shall preclude an FRR Entity from including in its FRR Capacity Plan any Capacity Resource that has not cleared such an auction for such Delivery Year. Furthermore, nothing herein shall preclude an FRR Entity from including in its FRR Capacity Plan a Capacity Resource obtained from a different FRR Entity, provided, however, that each FRR Entity shall be individually responsible for meeting its capacity obligations hereunder, and provided further that the same megawatts of Unforced Capacity shall not be committed to more than one FRR Capacity Plan for any given Delivery Year.
- 2. An FRR Entity that designates Capacity Resources in its FRR Capacity Plan for a Delivery Year based on the Threshold Quantity may offer to sell Capacity Resources in excess of that needed for the Threshold Quantity in any auction conducted under Attachment DD of the PJM Tariff for such Delivery Year, but may not offer to sell Capacity Resources in the auctions for any such Delivery Year in excess of an amount equal to the lesser of (a) 25% times the Unforced Capacity equivalent of the Installed Reserve Margin for such Delivery Year multiplied by the Preliminary Forecast Peak Load for which such FRR Entity is responsible under its FRR Capacity Plan for such Delivery Year, or (b) 1300 MW.
- 3. An FRR Entity that designates Capacity Resources in its FRR Capacity Plan for a Delivery Year based on the Threshold Quantity may not offer to sell such resources in any Reliability Pricing Model auction, but, but may use such resources to meet any increased capacity obligation resulting from unanticipated growth of the loads in its FRR Capacity Plan, or may sell such resources to serve loads located outside the PJM Region, or to another FRR Entity, subject to subsection E.1 above.
- A Party that has selected the FRR Alternative for only part of its load in the PJM Region pursuant to Section B.2 of this Schedule that designates Capacity Resources as Self-Supply in a Reliability Pricing Model Auction to meet such Party's expected Daily Unforced Capacity Obligation under Schedule 8 shall not be required, solely as a result of such designation, to identify Capacity Resources in its FRR Capacity Plan based on the Threshold Quantity; provided, however, that such Party may not so designate Capacity Resources in an amount in excess of the lesser of (a) 25% times such Party's total expected Unforced Capacity obligation (under both Schedule 8 and Schedule 8.1), or (b) 200 MW. A Party that wishes to

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avoid the foregoing limitation must identify Capacity Resources in its FRR Capacity Plan based on the Threshold Quantity.

## F. FRR Daily Unforced Capacity Obligations and Deficiency Charges

1. For each billing month during a Delivery Year, the Daily Unforced Capacity Obligation of an FRR Entity shall be determined on a daily basis for each Zone as follows:

Daily Unforced Capacity Obligation – OPL \* Final Zonal FRR Scaling Factor \* FPR where:

OPL -Obligation Peak Load, defined as the daily summation of the weather-adjusted coincident summer peak, last preceding the Delivery Year, of the end-users in such Zone (net of operating Behind The Meter Generation, but not to be less than zero) for which such Party was responsible on that billing day, as determined in accordance with the procedures set forth in the PJM Manuals

Final Zonal FRR Scaling Factor - FZPLDY/FZWNSP;

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.

- 2. An FRR Entity shall be assessed an FRR Capacity Deficiency Charge in each Zone addressed in such entity's FRR Capacity Plan for each day during a Delivery Year that it fails to satisfy its Daily Unforced Capacity Obligation in each Zone. Such FRR Capacity Deficiency Charge shall be in an amount equal to the deficiency below such FRR Entity's Daily Unforced Capacity Obligation for such Zone times twice the Cost of New Entry applicable to such Zone.
- 3. If an FRR Entity acquires load that is not included in the Preliminary Zonal Peak Load Forecast such acquired load shall be treated in the same manner as provided in Sections H.1 and H.2 of this Schedule.
- 4. The shortages in meeting the minimum requirement within the constrained zones and the shortage in meeting the total obligation are first calculated. The shortage in the unconstrained area is calculated as the total shortage less shortages in constrained zones and excesses in constrained zones (the shortage is zero if this is a negative number). The Capacity Deficiency Charge is charged to the shortage in each zone and in the unconstrained area separately. This procedure is used to allow the use of capacity excesses from constrained zones to reduce shortage in the unconstrained area and to disallow the use of capacity excess from unconstrained area to reduce shortage in constrained zones.

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## G. Capacity Resource Performance

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 sections 7, 8, 9, 10, 11, and 13 of Attachment DD to the PJM Tariff; provided, however, the Daily Deficiency Rate under sections 7, 8, 9, and 13 thereof, and the charge rates under section 10 thereof, shall be the net Cost of New Entry. 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 Sections 7 and 10 of Attachment DD to the PJM Tariff. 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.

## H. Annexation of service territory by Public Power Entity

- 1. In the event a Public Power Entity that is an FRR Entity annexes service territory to include new customers on sites where no load had previously existed, then the incremental load on such a site shall be treated as unanticipated load growth, and such FRR Entity shall be required to commit sufficient resources to cover such obligation in the relevant Delivery Year.
- 2, In the event a Public Power Entity that is an FRR Entity annexes service territory to include load from a Party that has not elected the FRR Alternative, then:
  - a. For any Delivery Year for which a Base Residual Auction already has been conducted, such acquiring FRR Entity shall meet its obligations for the incremental load by paying PJM for incremental obligations (including any additional demand curve obligation) at the Capacity Resource Clearing Price for the relevant location. Any such revenues shall be used to pay Capacity Resources that cleared in the BRA for that LDA.
  - b. For any Delivery Year for which a Base Residual Auction has not been conducted, such acquiring FRR Entity shall include such incremental load in its FRR Capacity Plan.
- 3. Annexation whereby a Party that has not elected the FRR Alternative acquires load from an FRR entity:
  - a. For any Delivery Year for which a Base Residual Auction already has been conducted, PJM would consider shifted load as unanticipated load growth for purposes of determining whether to hold a Second Incremental Auction. If a Second Incremental Auction is held, FRR entity would have a must offer requirement for sufficient capacity to meet the load obligation of such shifted load. If no Second Incremental Auction is conducted, the FRR Entity may sell the associated quantity of capacity into an RPM Auction or bilaterally.

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b. For any Delivery Year for which a Base Residual Auction has not been conducted, the FRR Entity that lost such load would no longer include such load in its FRR Capacity Plan, and PJM would include such shifted load in future BRAs.

## I. Savings Clause for State-Wide FRR Program

Nothing herein shall obligate or preclude a state, acting either by law or through a regulatory body acting within its authority, from designating the Load Serving Entity or Load Serving Entities that shall be responsible for the capacity obligation for all load in one or more FRR Service Areas within such state according to the terms and conditions of that certain Settlement Agreement dated September 29, 2006 in FERC Docket Nos. ER05-1410 and El05-148, the PJM Tariff and this Agreement. Each LSE subject to such state action shall become a Party to this Agreement and shall be deemed to have elected the FRR Alternative.

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#### **SCHEDULE 9**

## PROCEDURES FOR ESTABLISHING THE CAPABILITY OF GENERATION CAPACITY RESOURCES

- A. Such rules and procedures as may be required to determine and demonstrate the capability of Generation Capacity Resources for the purposes of meeting a Load Serving Entity's obligations under the Agreement shall be developed by the Office of Interconnection and maintained in the PJM Manuals.
- B. The rules and procedures for determining and demonstrating the capability of generating units to serve load in the PJM Region shall be consistent with achieving uniformity for planning, operating, accounting and reporting purposes.
- C. The rules and procedures shall recognize the difference in types of generating units and the relative ability of units to maintain output at stated capability over a specified period of time. Factors affecting such ability include, but are not limited to, fuel availability, stream flow for hydro units, reservoir storage for hydro and pumped storage units, mechanical limitations, and system operating policies.

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#### SCHEDULE 10

# PROCEDURES FOR ESTABLISHING DELIVERABILITY OF GENERATION CAPACITY RESOURCES

Generation Capacity Resources must be deliverable, consistent with a loss of load expectation as specified by the Reliability Principles and Standards, to the total system load, including portion(s) of the system in the PJM Region that may have a capacity deficiency at any time. Deliverability shall be demonstrated by either obtaining or providing for Network Transmission Service or Firm Point-To-Point Transmission Service within the PJM Region such that each Generation Capacity Resource is either a Network Resource or a Point of Receipt, respectively. In addition, for Generation Capacity Resources located outside the metered boundaries of the PJM Region that are used to meet an Unforced Capacity Obligation, the capacity and energy of such Generation Capacity Resources must be delivered to the metered boundaries of the PJM Region through firm transmission service.

Certification of deliverability means that the physical capability of the transmission network has been tested by the Office of the Interconnection and found to provide that service consistent with the assessment of available transfer capability as set forth in the PJM Tariff and, for Generation Resources owned or contracted for by a Load Serving Entity, that the Load Serving Entity has obtained or provided for Network Transmission Service or Firm Point-to-Point Transmission Service to have capacity delivered on a firm basis under specified terms and conditions.

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#### **SCHEDULE 10.1**

## LOCATIONAL DELIVERABILITY AREAS AND REQUIREMENTS

The capacity obligations imposed under this Agreement recognize the locational value of Capacity Resources. To ensure that such locational value is properly recognized and quantified, the Office of the Interconnection shall follow the procedures in this Schedule.

- A. Following the Transition Period, as such term is defined in Attachment DD to the Tariff, the Locational Deliverability Areas for the purposes of determining locational capacity obligations hereunder, but not necessarily for the purposes of the Regional Transmission Expansion Planning Protocol, shall consist of the following Zones (as defined in Schedule 15), combinations of such Zones, and portions of such Zones:
  - o Dominion
  - o Penelec
  - o ComEd
  - o AEP
  - Dayton
  - Duquesne
  - o APS
  - ο ΛΕ
  - o BGE
  - o DPL
  - o PECO
  - o PEPCO
  - o PSEG
  - o JCPL
  - o MetEd
  - o PPL
  - O Mid-Atlantic Area Council (MAAC) Region (consisting of all the zones listed below for Eastern MAAC, Western MAAC, and Southwestern MAAC)
  - o ComEd, AEP, Dayton, APS, and Duquesne
  - o Eastern MAAC (PSE&G, JCP&L, PECO, AE, DPL & RE)
  - Southwestern MAAC (PEPCO & BG&E)
  - Western MAAC (Penelec, MetEd, PPL)
  - o PSEG northern region (north of Linden substation); and
  - O DPL southern region (south of Chesapeake and Delaware Canal

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- В. For purposes of evaluating the need for any changes to the foregoing list, Locational Deliverability Areas shall be those areas, identified by the load deliverability analyses conducted pursuant to the Regional Transmission Expansion Planning Protocol and the PJM Manuals that have a limited ability to import capacity due to physical limitations of the transmission system, voltage limitations or stability limitations. Such limits on import capability shall not reflect the effect of Qualifying Transmission Upgrades offered in the Base Residual Auction. The Locational Deliverability Areas identified in Paragraph A above (as it may be amended from time to time) for a Delivery Year shall be modeled in the Base Residual Auction and any Incremental Auction conducted for such Delivery Year. If the Office of the Interconnection includes a new Locational Deliverability Area in the Regional Transmission Expansion Planning Protocol, it shall make a filing with FERC to amend this Schedule to add a new Locational Deliverability Area (including a new aggregate LDA), if such new Locational Deliverability Area is projected to have a capacity emergency transfer limit less than 1.05 times the capacity emergency transfer objective of such area, or if warranted by other reliability concerns consistent with the Reliability Principles and Standards. In addition, any Party may propose, and the Office of the Interconnection shall evaluate, consistent with the same CETO/CETO comparison or other reliability concerns, possible new Locational Deliverability Areas (including aggregate LDAs) for inclusion under the Regional Transmission Expansion Planning Protocol and for purposes of determining locational capacity obligations hereunder.
- C. For each Locational Deliverability Area for which a separate VRR Curve was established for a Delivery Year, the Office of the Interconnection shall determine, pursuant to procedures set forth in the PJM Manuals, the Percentage of Internal Resources Required, that must be committed during such Delivery Year from Capacity Resources physically located in such Locational Deliverability Area.

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#### SCHEDULE 11

## **DATA SUBMITTALS**

To perform the studies required to determine the Forecast Pool Requirement and Daily Unforced Capacity Obligations under this Agreement and to determine compliance with the obligations imposed by this Agreement, each Party and other owner of a Capacity Resource shall submit data to the Office of the Interconnection in conformance with the following minimum requirements:

- 1. All data submitted shall satisfy the requirements, as they may change from time to time, of any procedures adopted by the Members Committee.
- 2. Data shall be submitted in an electronic format, or as otherwise specified by the Markets and Reliability Committee and approved by the PJM Board.
- 3. Actual outage data for each month for Generator Forced Outages, Generator Maintenance Outages and Generator Planned Outages shall be submitted so that it is received by such date specified in the PJM Manuals.
- 4. On or before the date specified in the PJM Manuals, planned and maintenance outage data for all Generation Resources and load forecasts (including seasonal and average weekly peaks) shall be submitted.
- 5. On or before the date specified in the PJM Manuals, adjustments to forecasts shall be submitted.
- 6. On or before the date or schedule for updates specified in the PJM Manuals, revisions to capacity and load forecasts (including the plans for satisfying the Daily Unforced Capacity Obligation of the Party) shall be submitted.
- 7. Capacity plans or revisions to previously submitted capacity plans, required under Schedule 6.
- 8. As desired by a Party, revisions to monthly peak load forecasts may be submitted.

The Parties acknowledge that additional information required to determine the Forecast Pool Requirement is to be obtained by the Office of the Interconnection from Electric Distributors in accordance with the provisions of the Operating Agreement.

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#### **SCHEDULE 12**

## **DATA SUBMISSION CHARGES**

## A. <u>Data Submission Charge</u>

For each working day of delay in the submittal of information required to be submitted under this Agreement, a data submission charge of \$500 shall be imposed.

## B. <u>Distribution Of Data Submission Charge Receipts</u>

- 1. Each Party that has satisfied its obligations for data submittals pursuant to Schedule 11 during a Delivery Year, without incurring a data submission charge related to that obligation, shall share in any data submission charges paid by any other Party that has failed to satisfy said obligation during such Planning Period. Such shares shall be in proportion to the sum of the Unforced Capacity Obligations of each such Party entitled to share in the data submission charges for the most recent month.
- 2. In the event all of the Parties have incurred a data submission charge during a Delivery Year, those data submission charges shall be distributed as approved by the PJM Board.

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#### **SCHEDULE 13**

## **EMERGENCY PROCEDURE CHARGES**

Following an Emergency, the compliance of each Party with the instructions of the Office of the Interconnection shall be evaluated as directed by the Markets and Reliability Committee. If, based on such evaluation, it is determined that a Party refused to comply with, or otherwise failed to employ its best efforts to comply with, the instructions of the Office of the Interconnection to implement PJM emergency procedures, that Party shall pay an emergency procedure charge, as set forth in Attachment DD to the PJM Tariff. The revenue associated with Emergency Procedure Charges shall be allocated in accordance with Attachment DD to the PJM Tariff.

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#### **SCHEDULE 14**

## DELEGATION TO THE OFFICE OF THE INTERCONNECTION

The following responsibilities shall be delegated by the Parties to the Office of the Interconnection:

- 1. New Parties. With regard to the addition, withdrawal or removal of a Party:
  - (a) Receive and evaluate the information submitted by entities that plan to serve loads within the PJM Region, including entities whose participation in the Agreement will expand the boundaries of the PJM Region. Such evaluation shall be conducted in accordance with the requirements of the Agreement.
  - (b) Evaluate the effects of the withdrawal or removal of a Party from this Agreement.
- 2. Implementation of Reliability Assurance Agreement. With regard to the implementation of the provisions of this Agreement:
  - (a) Receive all required data and forecasts from the Parties and other owners of Capacity Resources;
  - (b) Perform all calculations and analyses necessary to determine the Forecast Pool Requirement and the obligations imposed under the Reliability Assurance Agreement, including periodic reviews of the capacity benefit margin for consistency with the Reliability Principles and Standards;
  - (c) Monitor the compliance of each Party with its obligations under the Agreement;
  - (d) Keep cost records, and bill and collect any costs or charges due from the Parties and distribute those charges in accordance with the terms of the Agreement;
  - (e) Assist with the development of rules and procedures for determining and demonstrating the capability of Capacity Resources;
  - (f) Establish the capability and deliverability of Generation Capacity Resources consistent with the requirements of the Reliability Assurance Agreement;
  - (g) Establish standards and procedures for Planned Demand Resources;
  - (h) Collect and maintain generator availability data;

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- (i) Perform any other forecasts, studies or analyses required to administer the Agreement;
- (j) Coordinate maintenance schedules for generation resources operated as part of the PJM Region;
- (k) Determine and declare that an Emergency exists or ceases to exist in all or any part of the PJM Region or announce that an Emergency exists or ceases to exist in a Control Area interconnected with the PJM Region;
- (l) Enter into agreements for (i) the transfer of energy in Emergencies in the PJM Region or in a Control Area interconnected with the PJM Region and (ii) mutual support in such Emergencies with other Control Areas interconnected with the PJM Region; and
- (m) Coordinate the curtailment or shedding of load, or other measures appropriate to alleviate an Emergency, to preserve reliability in accordance with FERC, NERC or Applicable Regional Reliability Council principles, guidelines, standards and requirements, and to ensure the operation of the PJM Region in accordance with Good Utility Practice.

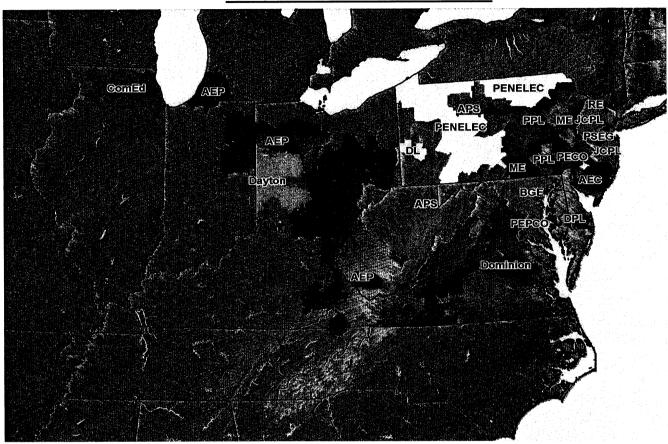
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## **SCHEDULE 15**

## **ZONES WITHIN THE PJM REGION**



# FULL NAME SHORT NAME

Pennsylvania Electric Company	Penelec
Allegheny Power	
PPL Group	
Metropolitan Edison Company	
Jersey Central Power and Light Company	
Public Service Electric and Gas Company	
Atlantic City Electric Company	
PECO Energy Company	
Baltimore Gas and Electric Company	
Delmarva Power and Light Company	
Potomac Electric Power Company	
Rockland Electric Company	RE
Commonwealth Edison Company	ComEd
AEP East Zone	
The Dayton Power and Light Company	
Virginia Electric and Power Company	
Duquesne Light Company	DL

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#### **SCHEDULE 16**

## Non-Retail Behind the Meter Generation Maximum Generation Emergency Obligations

- 1. A Non-Retail Behind The Meter Generation resource that has output that is netted from the Accounted-For Obligation of a Party pursuant to Schedule 7 of this Agreement shall be required to operate at its full output during the first ten times between November 1 and October 31 that Maximum Generation Emergency (as defined in section 1.3.13 of Schedule 1 of the Operating Agreement) conditions occur in the zone in which the Non-Retail Behind The Meter Generation resource is located.
- 2. The Party for which Non-Retail Behind The Meter Generation output is netted from its Accounted-For Obligation shall be required to report to PJM scheduled outages of the resource prior to the occurrence of such outage in accordance with the time requirements and procedures set forth in the PJM Manuals. Such Party also shall report to PJM the output of the Non-Retail Behind The Meter Generation resource during each Maximum Generation Emergency condition in which the resource is required to operate in accordance with the procedures set forth in PJM Manuals.
- 3. Except for failures to operate due to scheduled outages during the months of October through May, for each instance a Non-Retail Behind The Meter Generation resource fails to operate, in whole or in part, as required in paragraph 1 above, the amount of operating Non-Retail Behind The Meter Generation from such resource that is eligible for netting will be reduced pursuant to the following formula:

Adjusted

ENRBTMG ENRBTMG  $\Sigma(10\% \text{ of the Not Run NRBTMG})$ 

Where:

ENRBTMG equals the operating Non-Retail Behind The Meter Generation eligible for netting as determined pursuant to Schedule 7 of this Agreement.

Not Run NRBTMG is the amount in megawatts that the Non-Retail Behind The Meter Generation resource failed to produce during an occurrence of Maximum Generation Emergency conditions in which the resource was required to operate.

 $\Sigma(10\%$  of the Not Run NRBTMG) is the summation of 10% megawatt reductions associated with the events of non-performance.

The Adjusted ENRBTMG shall not be less than zero and shall be applicable for the succeeding Planning Period.

4. If a Non-Retail Behind The Meter Generation resource that is required to operate during a Maximum Generation Emergency condition is an Energy Resource and injects energy into the Transmission System during the Maximum Generation Emergency condition, the Network Customer that owns the resource shall be compensated for such injected energy in accordance with the PJM market rules.

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## **SCHEDULE 17**

## PARTIES TO THE RELIABILITY ASSURANCE AGREEMENT

This Schedule sets forth the Parties to the Agreement:

Harrison REA Inc.

City of New Martinsville

City of Philippi

Letterkenny Industrial Development Authority-PA

Old Dominion Electric Cooperative

Town of Front Royal

Hagerstown

Borough of Chambersburg

Town of Williamsport

**Thurmont** 

Allegheny Electric Coopertive, Inc.

Allegheny Power

AES New Energy, Inc.

BP Energy Co.

Commonwealth Edison Company

Commonwealth Edison Company of Indiana

Dayton Power & Light Company (The)

American Municipal Power-Ohio, Inc.

American Electric Power Service Corporation on behalf of its affiliates:

Appalachian Power Company

Columbus Southern Power Company

Indiana Michigan Power Company

Kentucky Power Company

Kingsport Power Company

Ohio Power Company

Wheeling Power Company

Allegheny Energy Supply Company, L.L.C.

Blue Ridge Power Agency, Inc.

Central Virginia Electric Cooperative

City of Dowogiac

Hoosier Energy REC, Inc.

Indiana Municipal Power Agency

**Ormet Primary Aluminum Corporation** 

City of Sturgis

Wabash Valley Power Association, Inc.

Duquesne Light Company

Virginia Electric and Power Company

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ACN Energy, Inc.

AES Power Direct, L.I..C.

Agway Energy Services-PA Inc.

Allegheny Energy Supply Company, L.L.C.

AllEnergy Marketing Company, L.L.C.

Amerada Hess Corporation

American Cooperative Services, Inc.

American Energy Solutions, Inc.

Atlantic City Electric Company

Baltimore Gas and Electric Company

BGE Home Products & Services, Inc.

BP Energy Company

Central Hudson Enterprise Corporation

CMS Marketing Services and Trading Company

Columbia Energy Power Marketing Corporation

Commodore Gas and Electric, Inc.

Commonwealth Energy Corporation dba electricAMERICA

Con Edison Energy, Inc.

Conectiv Energy Supply, Inc.

Constellation Energy Source, Inc.

Consolidated Edison Solutions, Inc.

Delmarva Power & Light Company

Dominion Retail, Inc.

DTE Edison America, Inc.

DTE Energy Market, Inc.

DTE Energy Trading, Inc.

Duke Energy Trading and Marketing, L.L.C.

DukeSolutions, Inc.

Easten Power Distribution Company

ECONnergy Energy Company, Inc.

ECONnergy PA, Inc.

Edison Mission Marketing & Trading, Inc.

Energy America, L.L.C.

Energy East Solutions, Inc.

Enron Energy Services, Inc.

Enron Power Marketing, Inc.

**Exelon Energy Company** 

FirstEnergy Corporation

FirstEnergy Trading and Power Marketing Incorporated

FirstEnergy Services Corp.

GPU Advanced Resources

GreenMountain.com Company

HIS Power & Water, L.L.C.

It's Electric & Gas, L.L.C.

Jersey Central Power & Light Company

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Keyspan Energy Services, Inc.

Metropolitan Edison Company

MIECO, Inc.

NewEnergy, Inc.

Niagara Mohawk Energy Marketing, Inc.

NJR Natural Energy Company

NRG New Jersey Energy Sales, L.L.C.

NYSEG Solutions, Inc.

Old Dominion Electric Cooperative

PECO Energy Company

Penn Power Energy, Inc.

Pennsylvania Electric Company

Pepco Energy Services, Inc.

Potomac Electric Power Company

PPL Electric Utilities Corporation

PPL EnergyPlus, L.L.C.

PSEG Energy Resources & Trade, L.L.C

PSEG Energy Technologies, Inc.

Public Service Electric and Gas Company

Reliant Energy Retail, Inc.

Rhoads Energy Corporation

Select Energy, Inc.

Sempra Energy Solutions

Sempra Energy Trading Corp.

Shell Energy Services Company, L.L.C.

Southern Company Retail Energy Marketing L.P.

South Jersey Energy Company

South Jersey Energy Solutions, L.L.C.

Smart Energy.com, Inc.

Statoil Energy Services, Inc.

Strategic Energy Ltd.

The Mack Services Group

The New Power Company

Total Gas & Electric, Inc.

Total Gas & Electricity (PA), Inc.

TXU Energy Trading Company d/b/a TXU Energy Services

UGI Energy Services, Inc.

UGI Utilities, Inc. - Electric Division

Utilimax.com, Inc.

Utility.com

Washington Gas Energy Services, Inc.

Williams Energy Market & Trading Company

Woodruff Energy

Worley & Obetz, Inc. d/b/a Advanced Energy

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PJM Interconnection, L.L.C. Docket Nos. EL05-148 and ER05-1410 September 29, 2006

Attachment B
PJM RAA Revisions
(Redline Version)

Reliability Assurance Agreement

Among Load-Serving Entities

In the PJM Region

k:\pjm\RPM Documents\ RAA for RPM (08-30-05).doc

# RELIABILITY ASSURANCE AGREEMENT

# **Among**

## LOAD SERVING ENTITIES

in the

# **PJM REGION**

[Note: redlining in RAA shows revisions against the RAA in PJM's August 31, 2005 Filing in Docket Nos. ER05-1410 and EL05-148]

Original Sheet No. 1

#### RELIABILITY ASSURANCE AGREEMENT

RELIABILITY ASSURANCE AGREEMENT, dated as of this 1<sup>st</sup> day of June, 20076 by and among the entities set forth in Schedule 176 hereto, hereinafter referred to collectively as the "Parties" and individually as a "Party."

#### WITNESSETH:

WHEREAS, each Party to this Agreement is a Load Serving Entity within the PJM Region;

WHEREAS, each Party is committing to share its Capacity Resources with the other Parties to reduce the overall reserve requirements for the Parties while maintaining reliable service; and

WHEREAS, each Party is committing to provide mutual assistance to the other Parties during Emergencies;

WHEREAS, each Party is committing to coordinate its planning of Capacity Resources to satisfy the Reliability Principles and Standards;

WHEREAS, the Parties previously have entered into similar commitments related to sub-regions of the PJM Region through the East RAA, the West RAA, or the South RAA;

WHEREAS, the Parties desire, on a phased basis, to replace the East RAA, West RAA, and South RAA with a single reliability assurance agreement among all Load-Serving Entities in the PJM Region; and

NOW THEREFORE, for and in consideration of the covenants and mutual agreements set forth herein and intending to be legally bound hereby, the Parties agree as follows:

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Original Sheet No. 2

#### **ARTICLE 1 -- DEFINITIONS**

Unless the context otherwise specifies or requires, capitalized terms used herein shall have the respective meanings assigned herein or in the Schedules hereto for all purposes of this Agreement (such definitions to be equally applicable to both the singular and the plural forms of the terms defined). Unless otherwise specified, all references herein to Articles, Sections or Schedules, are to Articles, Sections or Schedules of this Agreement. As used in this Agreement:

- 1.1 Agreement shall mean this Reliability Assurance Agreement, together with all Schedules hereto, as amended from time to time.
- 1.2 Applicable Regional Reliability Council shall have the same meaning as in the PJM Tariff.
- 1.3 Base Residual Auction shall have the same meaning as in Attachment Y DD to the PJM Tariff.
- 1.4 Behind The Meter Generation shall mean one or morea generating units that delivers energy to load without using the Transmission System or any distribution facilities (unless the entity that owns or leases the distribution facilities consented to such use of the distribution facilities and such consent has been demonstrated to the satisfaction of the Office of the Interconnection are located with load at a single electrical location such that no transmission or distribution facilities owned or operated by any Transmission Owner or Electrical Distributor are used to deliver energy from such generating units to such load; provided, however, that Behind The Meter Generation does not include (i) at any time, any portion of such generating unit[s]'s capacity that is designated as a Capacity Resource or (ii) in any hour, any portion of the output of the such generating unit[s] that is sold to another entity for consumption at another electrical location or into the PJM Interchange Energy Market.
- 1.5 Black Start Capability shall mean the ability of a generating unit or station to go from a shutdown condition to an operating condition and start delivering power without assistance from the power system.
- 1.6 Capacity Emergency Transfer Objective ("CETO") shall mean the amount of electric energy that a given area must be able to import in order to remain within a loss of load expectation of one event in 25 years when the area is experiencing a localized capacity emergency, as determined in accordance with the PJM Manuals. Without limiting the foregoing, CETO shall be calculated based in part on EFOR<sub>D</sub> determined in accordance with Paragraph C of Schedule 5.
- 1.7 Capacity Emergency Transmission Limit ("CETL") shall mean the capability of the transmission system to support deliveries of electric energy to a given area experiencing a localized capacity emergency as determined in accordance with the PJM Manuals.

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Original Sheet No. 3

- 1.86 Capacity Resources shall mean megawatts of (i) net capacity from existing or Planned Generation Capacity Resources meeting the requirements of Schedules 9 and 10 that are or will be owned by or contracted to a Party and that are or will be committed to satisfy that Party's obligations under this Agreement for a Delivery Year; (ii) net capacity from existing or Planned Generation Capacity Resources within the PJM Region not owned or contracted for by a Party which are accredited to the PJM Region pursuant to the procedures set forth in Schedules 9 and 10; and (iii) load reduction capability provided by Demand Resources or ILR that are accredited to the PJM Region pursuant to the procedures set forth in Schedule 6.
- 1.97 Capacity Transfer Right shall have the meaning specified in Attachment Y DD to the PJM Tariff.
- 1.108 Control Area shall mean an electric power system or combination of electric power systems bounded by interconnection metering and telemetry to which a common generation control scheme is applied in order to:
- (a) match the power output of the generators within the electric power system(s) and energy purchased from entities outside the electric power system(s), with the load within the electric power system(s);
- (b) maintain scheduled interchange with other Control Areas, within the limits of Good Utility Practice;
- (c) maintain the frequency of the electric power system(s) within reasonable limits in accordance with Good Utility Practice and the criteria of NERC and Applicable Regional Reliability Councils;
- (d) maintain power flows on transmission facilities within appropriate limits to preserve reliability; and
- (e) provide sufficient generating capacity to maintain operating reserves in accordance with Good Utility Practice.
- 1.119 Daily Unforced Capacity Obligation shall have the meaning set forth in Schedule 8 or, as to an FRR Entity, in Schedule 8.1.
- 1.1210 Delivery Year shall mean a Planning Period for which a Capacity Resource is committed pursuant to the auction procedures specified in Attachment Y-DD to the Tariff or pursuant to an FRR Capacity Plan.
- 1.1344 Demand Resource shall mean a resource with a demonstrated capability to provide a reduction in demand or otherwise control load in accordance with the requirements of Schedule 6 that offers and that clears load reduction capability in a Base Residual Auction or Incremental Auction or that is committed through an FRR Capacity Plan. As set forth in Schedule 6, a Demand Resource may be an existing demand response resource or a Planned Demand Resource.

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Original Sheet No. 4

- 1.142 Demand Resource Provider shall have the meaning specified in Attachment Y DD to the PJM Tariff.
  - 1.153 DR Factor shall mean that factor approved from time to time by the PJM Board used to determine the unforced capacity value of a Demand Resource or ILR in accordance with Schedule 6.
  - 1.164 East RAA shall mean that certain Reliability Assurance Agreement among Load-Serving Entities in the PJM Region, PJM Rate Schedule FERC No. 27.
  - 1.17 Electric Cooperative shall mean an entity owned in cooperative form by its customers that is engaged in the generation, transmission, and/or distribution of electric energy.
  - 1.185 Electric Distributor shall mean an entity that owns or leases with rights equivalent to ownership electric distribution facilities that are providing electric distribution service to electric load within the PJM Region.
  - 1.196 Emergency shall mean (i) an abnormal system condition requiring manual or automatic action to maintain system frequency, or to prevent loss of firm load, equipment damage, or tripping of system elements that could adversely affect the reliability of an electric system or the safety of persons or property; or (ii) a fuel shortage requiring departure from normal operating procedures in order to minimize the use of such scarce fuel; or (iii) a condition that requires implementation of emergency procedures as defined in the PJM Manuals.
  - 1.2017 End-Use Customer shall mean a Member that is a retail end-user of electricity within the PJM Region.
    - 1.2148 Facilities Study Agreement shall have the same meaning as in the PJM Tariff
- 1.2219 FERC shall mean the Federal Energy Regulatory Commission or any successor federal agency, commission or department.
- 1.239 Firm Point-To-Point Transmission Service shall mean Firm Transmission Service provided pursuant to the rates, terms and conditions set forth in Part II of the PJM Tariff.
- 1.241 Firm Transmission Service shall mean transmission service that is intended to be available at all times to the maximum extent practicable, subject to an Emergency, an unanticipated failure of a facility, or other event beyond the control of the owner or operator of the facility or the Office of the Interconnection.
- 1.25 Fixed Resource Requirement Alternative or FRR Alternative shall mean an alternative method for a Party to satisfy its obligation to provide Unforced Capacity hereunder, as set forth in Schedule 8.1 to this Agreement.

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Original Sheet No. 5

- 1.262 Forecast Pool Requirement shall mean the amount, stated in percent, equal to one hundred plus the percent unforced reserve margin (stated as a decimal number) for the PJM Region required pursuant to this Agreement, as approved by the PJM Board pursuant to Schedule 4.1.
- 1.27 Forecast RTO ILR Obligation shall have the same meaning as in the PJM Tariff.
- 1.28 Forecast Zonal ILR Obligation shall have the same meaning as in the PJM Tariff.
- 1.29 FRR Capacity Plan shall mean a long-term plan for the commitment of Capacity Resources to satisfy the capacity obligations of a Party that has elected the FRR Alternative, as more fully set forth in Schedule 8.1 to this Agreement.
- 1.30 FRR Entity shall mean, for the duration of such election, a Party that has elected the FRR Alternative hereunder.
- FRR Service Area shall mean (a) the service territory of an IOU as recognized by state law, rule or order; (b) the service area of a Public Power Entity or Electric Cooperative as recognized by franchise or other state law, rule, or order; or (c) a separately identifiable geographic area that is: (i) bounded by wholesale metering, or similar appropriate multi-site aggregate metering, that is visible to, and regularly reported to, the Office of the Interconnection, or that is visible to, and regularly reported to an Electric Distributor and such Electric Distributor agrees to aggregate the load data from such meters for such FRR Service Area and regularly report such aggregated information, by FRR Service Area, to the Office of the Interconnection; and (ii) for which the FRR Entity has or assumes the obligation to provide capacity for all load (including load growth) within such area excluding the load of Single-Customer LSEs that are FRR Entities. In the event that the service obligations of an Electric Cooperative or Public Power Entity are not defined by geographic boundaries but by physical connections to a defined set of customers, the FRR Service Area in such circumstances shall be defined as all customers physically connected to transmission or distribution facilities of such Electric Cooperative or Public Power Entity within an area bounded by appropriate wholesale aggregate metering as described above.
- 1.3223 Full Requirements Service shall mean wholesale service to supply all of the power needs of a Load Serving Entity to serve end-users within the PJM Region that are not satisfied by its own generating facilities.
- 1.3324 Generation Capacity Resource shall mean a generation unit, or the right to capacity from a specified generation unit, that meets the requirements of Schedules 9 and 10 of this Agreement. A Generation Resource may be an existing Generation Resource or a Planned Generation Resource.
- 1.3425 Generation Owner shall mean a Member that owns or leases with rights equivalent to ownership facilities for the generation of electric energy that are located within the

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Original Sheet No. 6

PJM Region. Purchasing all or a portion of the output of a generation facility shall not be sufficient to qualify a Member as a Generation Owner.

- 1.3526 Generator Forced Outage shall mean an immediate reduction in output or capacity or removal from service, in whole or in part, of a generating unit by reason of an Emergency or threatened Emergency, unanticipated failure, or other cause beyond the control of the owner or operator of the facility, as specified in the relevant portions of the PJM Manuals. A reduction in output or removal from service of a generating unit in response to changes in market conditions shall not constitute a Generator Forced Outage.
- 1.3627 Generator Maintenance Outage shall mean the scheduled removal from service, in whole or in part, of a generating unit in order to perform repairs on specific components of the facility, if removal of the facility qualifies as a maintenance outage pursuant to the PJM Manuals.
- 1.3728 Generator Planned Outage shall mean the scheduled removal from service, in whole or in part, of a generating unit for inspection, maintenance or repair with the approval of the Office of the Interconnection in accordance with the PJM Manuals.
- 1.3829 Good Utility Practice shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather is intended to include acceptable practices, methods, or acts generally accepted in the region.
- 1.390 ILR Provider shall have the meaning specified in Attachment Y DD to the PJM Tariff.
- 1.4031 Incremental Auction shall mean the First Incremental Auction, the Second Incremental Auction, or the Third Incremental Auction, each as defined in Attachment Y-DD to the PJM Tariff.
  - 1.4132 Interconnection Agreement shall have the same meaning as in the PJM Tariff.
- 1.4233 Interruptible Load for Reliability, or ILR, shall mean a resource with a demonstrated capability to provide a reduction in demand or otherwise control load in accordance with the requirements of Schedule 6 that is certified by PJM no later than three months prior to a Delivery Year.
- 1.4334 IOU shall mean an investor-owned utility with substantial business interest in owning and/or operating electric facilities in any two or more of the following three asset categories: generation, transmission, distribution.

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PJM Interconnection, L.L.C. Rate Schedule FERC No. 44

Original Sheet No. 6

1.34 Load Following Resource shall mean a Generation Resource that has demonstrated flexible start capability or dispatchable capability pursuant to Schedule 9.1 of this Agreement.

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Original Sheet No. 7

- 1.4435 Load Serving Entity or LSE shall mean any entity (or the duly designated agent of such an entity), including a load aggregator or power marketer, (i) serving end-users within the PJM Region, and (ii) that has been granted the authority or has an obligation pursuant to state or local law, regulation or franchise to sell electric energy to end-users located within the PJM Region. Load Serving Entity shall include any end-use customer that qualifies under state rules or a utility retail tariff to manage directly its own supply of electric power and energy and use of transmission and ancillary services.
- 1.4536 Locational Reliability Charge shall mean the charge determined pursuant to Schedule 8.
- 1.4661 Markets and Reliability Committee shall mean the committee established pursuant to the Operating Agreement as a Standing Committee of the Members Committee.
- 1.4737 Member shall mean an entity that satisfies the requirements of Sections 1.24 and 11.6 of the PJM Operating Agreement. In accordance with Article 4 of this Agreement, each Party to this Agreement also is a Member.
- 1.4838 Members Committee shall mean the committee specified in Section 8 of the PJM Operating Agreement composed of the representatives of all the Members.
- 1.4939 NERC shall mean the North American Electric Reliability Council or any successor thereto.
  - 1.5040 Network Resources shall have the meaning set forth in the PJM Tariff.
- 1.5141 Network Transmission Service shall mean transmission service provided pursuant to the rates, terms and conditions set forth in Part III of the PJM Tariff or transmission service comparable to such service that is provided to a Load Serving Entity that is also a Transmission Owner (as that term is defined in the PJM Tariff).
- 1.5242 Nominated Demand Resource Value shall have the meaning specified in Attachment DDY to the PJM Tariff.
- 1.5343 Nominated ILR Value shall have the meaning specified in Attachment Y-DD to the PJM Tariff.
- 1.54 Non-Retail Behind the Meter Generation shall mean Behind the Meter Generation that is used by municipal electric systems, electric cooperatives, and electric distribution companies to serve load.
- 1.5544 Obligation Peak Load shall be the summation of the weather normalized coincident summer peaks for the previous summer of the end-users for which the Party was responsible on that billing day, as determined pursuant to Schedule 8 of this Agreement.

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Original Sheet No. 8

- 1.5645 Office of the Interconnection shall mean the employees and agents of PJM Interconnection, L.L.C., subject to the supervision and oversight of the PJM Board, acting pursuant to the Operating Agreement.
- 1.5746 Operating Agreement of PJM Interconnection, L.L.C. or Operating Agreement shall mean that certain agreement, dated April 1, 1997 and as amended and restated June 2, 1997 and as amended from time to time thereafter, among the members of the PJM Interconnection, L.L.C.
- 1.5847 Operating Reserve shall mean the amount of generating capacity scheduled to be available for a specified period of an operating day to ensure the reliable operation of the PJM Region, as specified in the PJM Manuals.
- 1.5948 Other Supplier shall mean a Member that is (i) a seller, buyer or transmitter of electric capacity or energy in, from or through the PJM Region, and (ii) is not a Generation Owner, Electric Distributor, Transmission Owner or End-Use Customer.
- 1.6049 Partial Requirements Service shall mean wholesale service to supply a specified portion, but not all, of the power needs of a Load Serving Entity to serve end-users within the PJM Region that are not satisfied by its own generating facilities.
- 1.61 Percentage Internal Resources Required shall mean, for purposes of an FRR Capacity Plan, the percentage of the LDA Reliability Requirement for an LDA that must be satisfied with Capacity Resources located in such LDA.
  - 1.6250 Party shall mean an entity bound by the terms of this Agreement.
  - 1.6351 PJM shall mean the PJM Board and the Office of the Interconnection.
- 1.6452 PJM Board shall mean the Board of Managers of the PJM Interconnection, L.L.C., acting pursuant to the Operating Agreement.
- 1.6553 PJM Manuals shall mean the instructions, rules, procedures and guidelines established by the Office of the Interconnection for the operation, planning and accounting requirements of the PJM Region.
- 1.6654 PJM Open Access Transmission Tariff or PJM Tariff shall mean the tariff for transmission service within the PJM Region, as in effect from time to time, including any schedules, appendices, or exhibits attached thereto.
- 1.6755 PJM Region shall have the same meaning as provided in the Operating Agreement.
- 1.6856 PJM Region Installed Reserve Margin shall mean the percent installed reserve margin for the PJM Region required pursuant to this Agreement, as approved by the PJM Board pursuant to Schedule 4.1.

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Original Sheet No. 9

- 1.6957 Planned Demand Resource shall mean a Demand Resource that does not currently have the capability to provide a reduction in demand or to otherwise control load, but that is scheduled to be capable of providing such reduction or control on or before the start of the Delivery Year for which such resource is to be committed, as determined in accordance with the requirements of Schedule 6.
- 1.7058 Planned Generation Capacity Resource shall mean a Generation Capacity Resource participating in the generation interconnection process under part IV, subpart A of the PJM Tariff, for which Interconnection Service is scheduled to commence on or before the first day of the Delivery Year for which such resource is to be committed, for which a Facilities Study Agreement has been executed prior to its participation in the Base Residual Auction for such Delivery Year, and for which an Interconnection Service Agreement has been executed prior to its participation in any Incremental Auction for such Delivery Year. Notwithstanding the foregoing, for purposes of any Delivery Year for which the Base Residual Auction is conducted in calendar year 20076 and 2008 as part of the Transition in implementing the Reliability Pricing Model, a Planned Generation Capacity Resource shall include a Generation Capacity Resource scheduled to be in service on or before the first day of such Delivery Year, for which a System Impact Study Agreement has been executed prior to its participation in the Base Residual Auction for such Delivery Year. A Generation Capacity Resource shall cease to be considered a Planned Generation Capacity Resource as of the date that Interconnection Service commences, in accordance with Part IV of the PJM Tariff, as to such resource.
  - 1.7159 Planning Period shall mean the 12 months beginning June 1 and extending through May 31 of the following year, or such other period approved by the Members Committee.
  - 1.72 Public Power Entity shall mean any agency, authority, or instrumentality of a state or of a political subdivision of a state, or any corporation wholly owned by any one or more of the foregoing, that is engaged in the generation, transmission, and/or distribution of electric energy.
  - 1.7360 Qualifying Transmission Upgrades shall have the meaning specified in Attachment Y-DD to the PJM Tariff.
  - 1.7461 Markets and Reliability Committee shall mean the committee established pursuant to the Operating Agreement as a Standing Committee of the Members Committee.
  - 1.7562 Reliability Principles and Standards shall mean the principles and standards established by NERC or an Applicable Regional Reliability Council to define, among other things, an acceptable probability of loss of load due to inadequate generation or transmission capability, as amended from time to time.
  - 1.7663 Required Approvals shall mean all of the approvals required for this Agreement to be modified or to be terminated, in whole or in part, including the acceptance for filing by FERC and every other regulatory authority with jurisdiction over all or any part of this Agreement.

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Original Sheet No. 10

- 1.64 Season shall have the meaning provided in Attachment Y to the PJM Tariff
- 1.7765 Self-Supply shall have the meaning provided in Attachment Y DD to the PJM Tariff.
- 1.78 Single-Customer LSE shall mean a Party that (a) serves only retail customers that are Affiliates of such Party; (b) owns or controls generation facilities located at one or more of the retail customer location(s) that in the aggregate satisfy at least 50% of such Party's Unforced Capacity obligations; and (c) serves retail customers having (i) an Obligation Peak Load at all locations of no less than 100 MW, where such peak load of each such location is no less than 10 MW; or (ii) an Obligation Peak Load at each location served of no less than 25 MW.
- 1.7966 South RAA shall mean that certain Reliability Assurance Agreement among Load-Serving Entities in the PJM South Region, on file with FERC as PJM Rate Schedule FERC No. 40.
- 1.8067 State Consumer Advocate shall mean a legislatively created office from any State, all or any part of the territory of which is within the PJM Region, and the District of Columbia established, inter alia, for the purpose of representing the interests of energy consumers before the utility regulatory commissions of such states and the District of Columbia and the FERC.
- 1.81 State Regulatory Structural Change shall mean as to any Party, a state law, rule, or order that, after September 30, 2006, initiates a program that allows retail electric consumers served by such Party to choose from among alternative suppliers on a competitive basis, terminates such a program, expands such a program to include classes of customers or localities served by such Party that were not previously permitted to participate in such a program, or that modifies retail electric market structure or market design rules in a manner that materially increases the likelihood that a substantial proportion of the customers of such Party that are eligible for retail choice under such a program (a) that have not exercised such choice will exercise such choice; or (b) that have exercised such choice will no longer exercise such choice, including for example, without limitation, mandating divestiture of utility-owned generation or structural changes to such Party's default service rules that materially affect whether retail choice is economically viable.
- 1.68 Thirty Minute Start Resource shall mean a generation resource that has demonstrated thirty minute start capability in accordance with Schedule 9.1 of this Agreement.
- 1.82 Threshold Quantity shall mean, as to any FRR Entity for any Delivery Year, the sum of (a) the Unforced Capacity equivalent (determined using the Pool-Wide Average EFORD) of the Installed Reserve Margin for such Delivery Year multiplied by the Preliminary Forecast Peak Load for which such FRR Entity is responsible under its FRR Capacity Plan for such Delivery Year, plus (b) the lesser of (i) 3% of the Unforced Capacity amount determined in (a) above or (ii) 450 MW. If the FRR Entity is not responsible for all load within a Zone, the Preliminary Forecast Peak Load for such entity shall be the FRR Entity's Obligation Peak Load last determined prior to the Base Residual Auction for such Delivery Year, times the Base FRR Scaling Factor (as determined in accordance with Schedule 8.1).

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- 1.8369 Transmission Facilities shall mean facilities that: (i) are within the PJM Region; (ii) meet the definition of transmission facilities pursuant to FERC's Uniform System of Accounts or have been classified as transmission facilities in a ruling by FERC addressing such facilities; and (iii) have been demonstrated to the satisfaction of the Office of the Interconnection to be integrated with the PJM Region transmission system and integrated into the planning and operation of the PJM Region to serve all of the power and transmission customers within the PJM Region.
- 1.8470 Transmission Owner shall mean a Member that owns or leases with rights equivalent to ownership Transmission Facilities. Taking transmission service shall not be sufficient to qualify a Member as a Transmission Owner.
- 1.8571 Transmission Owners Agreement shall mean that certain <u>Consolidated Transmission</u> Owners a Agreement, dated as of <u>June 2, 1997 \_\_\_\_\_\_ December 15, 2005</u> and as amended from time to time, among transmission owners within the PJM <u>Control Area Region</u>.
- 1.8672 Unforced Capacity shall mean installed capacity rated at summer conditions that is not on average experiencing a forced outage or forced derating, calculated for each Capacity Resource on the 12-month period from October to September without regard to the ownership of or the contractual rights to the capacity of the unit.
- 1.8773 West RAA shall mean the "PJM West Reliability Assurance Agreement among the Load Serving Entities in the PJM West Region," on file with FERC as PJM Rate Schedule FERC No. 32.
- 1.74 West Transmission Owner shall mean a Member that has executed that certain "West Transmission Owners Agreement among PJM Interconnection, L.L.C. and Certain Owners of Electric Transmission Facilities," (PJM Interconnection L.L.C. Rate Schedule FERC No. 33).
- 1.8875 Zonal Capacity Price shall mean the price of Unforced Capacity in a Zone that an LSE that has not elected the FRR Alternative is obligated to pay for a Delivery Year as determined pursuant to Attachment Y-DD to the PJM Tariff.
- 1.8976 Zone shall mean an area within the PJM Region, as set forth in Schedule 15, or as such areas may be (i) combined as a result of mergers or acquisitions or (ii) added as a result of the expansion of the boundaries of the PJM Region. A Zone shall include any Non-Zone Network Load (as defined in the PJM Tariff) located outside the PJM Region that is served from such Zone under Schedule H-A of the PJM Tariff.

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#### **ARTICLE 2 -- PURPOSE**

This Agreement is intended to ensure that adequate Capacity Resources, including planned and existing Generation Capacity Resources, planned and existing Demand Resources, and ILR will be planned and made available to provide reliable service to loads within the PJM Region, to assist other Parties during Emergencies and to coordinate planning of such resources consistent with the Reliability Principles and Standards. Further, it is the intention and objective of the Parties to implement this Agreement in a manner consistent with the development of a robust competitive marketplace. To accomplish these objectives, this Agreement is among all of the Load Serving Entities within the PJM Region. Unless this Agreement is terminated as provided in Section 3.3, every entity which is or will become a Load Serving Entity within the PJM Region is to become and remain a Party to this Agreement or to an agreement (such as a requirements supply agreement) with a Party pursuant to which that Party has agreed to act as the agent for the Load Serving Entity for purposes of satisfying the obligations under this Agreement related to the load within the PJM Region of that Load Serving Entity. Nothing herein is intended to abridge, alter or otherwise affect the emergency powers the Office of the Interconnection may exercise under the Operating Agreement and PJM Tariff.

## ARTICLE 3 -- TERM AND TERMINATION OF THE AGREEMENT

- 3.1 Term. This Agreement shall become effective as of June 1, 20076 and shall govern Unforced Capacity Obligations for the Planning Period beginning as of that date ("Initial Delivery Year"), and for each Planning Period thereafter, unless and until terminated in accordance with the terms hereof.
- 3.2 Transition Provisions. The East RAA, West RAA, and South RAA shall govern, in accordance with their terms now in effect or as hereafter validly amended, capacity requirements for each Planning Period through the end of the Planning Period ending May 31, 20076. Subject to the termination provisions in each such agreement, the East RAA, West RAA, and South RAA shall terminate effective 11:59:59 p.m. on May 31, 20076.

#### 3.3 Termination.

- 3.3.1 Rights to Terminate. This Agreement may be terminated by a vote in the Members Committee to terminate the Agreement by an affirmative Sector Vote as specified in the Operating Agreement and upon the receipt of all Required Approvals related to the termination of this Agreement. Any such termination must be approved by the PJM Board and filed with the FERC and shall become effective only upon the FERC's approval.
- 3.3.2 Obligations upon Termination. Any provision of this Agreement that expressly or by implication comes into or remains in force following the termination of this Agreement shall survive such termination. The surviving provisions shall include, but shall not be limited to: (a) final settlement of the obligations of each Party under Articles 8 and 12 of this Agreement, including the accounting for the period ending with the last day of the month for which the Agreement is effective, (b) the provisions of this Agreement necessary to conduct final billings, collections and accounting with respect to all matters arising hereunder and (c) the indemnification provisions as applicable to periods prior to such termination.

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## **ARTICLE 4 -- ADDITION OF NEW PARTIES**

Each Party agrees that any entity that (i) is or will become a Load Serving Entity, (ii) complies with the process and data requirements set forth in Schedule 1, and (iii) meets the standards for interconnection set forth in Schedule 2 shall become a Party to this Agreement and shall be listed on Schedule 16 of this Agreement upon becoming a party to the Operating Agreement, and execution of a counterpart of this Agreement.

### ARTICLE 5 -- WITHDRAWAL OR REMOVAL OF A PARTY

## 5.1 Withdrawal of a Party.

- 5.1.1 Notice. Upon written notice to the Office of the Interconnection, any Party may withdraw from this Agreement, effective upon the completion of its obligations hereunder and the documentation by such Party, to the satisfaction of the Office of the Interconnection, that such Party is no longer a Load Serving Entity.
  - 5.1.2 Determination of Obligations. A Party's obligations hereunder shall be completed as of the end of the last month for which such Party's obligations have been set at the time said notice is received, except as provided in Article 13, or unless the Members Committee determines that the remaining Parties will be able to adjust their obligations and commitments related to the performance of this Agreement consistent with such earlier withdrawal date as may be requested by the withdrawing Party, without undue hardship or cost, while maintaining the reliability of the PJM Region.
  - 5.1.3 Survival of Obligations upon Withdrawal. (a) The obligations of a Party upon its withdrawal from this Agreement and any obligations of that Party under this Agreement at the time of its withdrawal shall survive the withdrawal of the Party from this Agreement. Upon the withdrawal of a Party from this Agreement, final settlement of the obligations of such Party under Articles 7 and 11 of this Agreement shall include the accounting through the date established pursuant to Sections 5.1.1 and 5.1.2.
  - (b) Any Party that withdraws from this Agreement shall pay all costs and expenses associated with additions, deletions and modifications to communication, computer, and other affected facilities and procedures, including any filing fees, to effect the withdrawal of the Party from the Agreement.
  - (c) Prior to withdrawal, a withdrawing Party desiring to remain interconnected with the PJM Region shall enter into a control area to control area interconnection agreement with the Office of the Interconnection and the transmission owner or Electric Distributor within the PJM Region with which its facilities are interconnected.

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- 5.1.4 Regulatory Review. Any withdrawal from this Agreement shall be filed with FERC and shall become effective only upon FERC's approval.
- Agreement within 30 days after the due date or (b) is in breach of any material obligation under this Agreement, the Office of the Interconnection shall cause a notice of such non-payment or breach to be sent to that Party. If the Party fails, within 3 days of the receipt of such notice (except as otherwise described below), to cure such non-payment or breach, or if the breach cannot be cured within such time and if the Party does not diligently commence to cure the breach within such time and to diligently pursue such cure to completion, the Office of the Interconnection and the remaining Parties may, without an election of remedies, exercise all remedies available at law or in equity or other appropriate proceedings. Such proceedings may include (c) the commencement of a proceeding before the appropriate state regulatory commission(s) to request suspension or revocation of the breaching Party's license or authorization to serve retail load within the state(s) and/or (d) bringing any civil action or actions or recovery of damages that may include, but not be limited to, all amounts due and unpaid by the breaching Party, and all costs and expenses reasonably incurred in the exercise of its remedies hereunder (including, but not limited to, reasonable attorneys' fees).

## **ARTICLE 6 -- MANAGEMENT ADMINISTRATION**

Except as otherwise provided herein, this Agreement shall be managed and administered by the Parties, Members, and State Consumer Advocates through the Members Committee and the Markets and Reliability Committee as a Standing Committee thereof, except as delegated to the Office of the Interconnection and except that only the PJM Board shall have the authority to approve and authorize the filing of amendments to this Agreement with the FERC.

# ARTICLE 7 -- RESERVE REQUIREMENTS AND OBLIGATIONS

- 7.1 Forecast Pool Requirement and Unforced Capacity Obligations. (a) The Forecast Pool Requirement shall be established to ensure a sufficient amount of capacity to meet the forecast load plus reserves adequate to provide for the unavailability of Generation Capacity Resources, load forecasting uncertainty, and planned and maintenance outages. Schedule 4 sets forth guidelines with respect to the Forecast Pool Requirement.
- (b) Unless the Party and its customer that is also a Load Serving Entity agree that such customer is to bear direct responsibility for the obligations set forth in this Agreement, (i) any Party that supplies Full Requirements Service to a Load Serving Entity within the PJM Region shall be responsible for all of that Load Serving Entity's capacity obligations under this Agreement for the period of such Full Requirements Service and (ii) any Party that supplies Partial Requirements Service to a Load Serving Entity within the PJM Region shall be responsible for such portion of the capacity obligations of that Load Serving Entity as agreed by the Party and the Load Serving Entity so long as the Load Serving Entity's full capacity obligation under this Agreement is allocated between or among Parties to this Agreement.

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- 7.2 Responsibility to Pay Locational Reliability Charge. Except to the extent its capacity obligations are satisfied through the FRR Alternative, Eeach Party shall pay, as to the loads it serves in each Zone during a Season of a Delivery Year, a Locational Reliability Charge for each such Zone during such Season Delivery Year. The Locational Reliability Charge shall equal such Party's Daily Unforced Capacity Obligation in a Zone, as determined pursuant to Schedule 8 of this Agreement, times the Final Zonal Capacity Price for such Season for such Zone, as determined pursuant to Attachment DDY of the PJM Tariff.
- LSE Option to Provide Capacity Resources. A Party obligated to pay a 7.3 Locational Reliability Charge for a Delivery Year may partially or wholly offset amounts it must pay for the such Locational Reliability Ccharge for a Delivery Year by offering Capacity Resources for sale in the Base Residual Auction or Second Incremental Auction, if such auction is held, applicable to such Delivery Year; provided such resources clear such auctions. Resources offered for sale in any such auction must satisfy the requirements specified in this Agreement and the PJM Manuals. Such Aa Party may choose to nominate a resource in the Base Residual Auction as Self-Supply, may choose to designate a price offer for such resource into any such auction, or may indicate in its offer that it wishes to commit such resource regardless of the clearing price, in which case the Party shall receive the marginal value of system capacity and the price adders for any applicable binding locational or operational constraint in accordance with Attachment Y DD of the PJM Tariff. Each such Party acknowledges that the clearing price it receives for a resource offered for sale and cleared, or Self-Supplied, in an auction may differ from the Final Zonal Capacity Price determined for the applicable Zone for the applicable Delivery Year, and that the Party shall remain responsible for the Locational Reliability Charge notwithstanding any such difference between the Capacity Resource Clearing Price and the Final Zonal Capacity Price. In addition, such Parties recognize that they may receive an allocation of Capacity Transfer Rights which may offset a portion of the Locational Reliability Charge, and that they may offset a portion of the Locational Reliability Charge by nominating ILR, or by offering and clearing Qualifying Transmission Upgrades in the Base Residual Auction.
- 7.4 Fixed Resource Requirement Alternative. A Party that is eligible for the Fixed Resource Requirement Alternative may satisfy its obligations hereunder to provide Unforced Capacity by submitting and adhering to an FRR Capacity Plan and meeting all other terms and conditions of such alternative, as set forth in this Agreement.
- Resources to meet its obligations hereunder shall submit to the Office of the Interconnection its plans (or revisions to previously submitted plans), as prescribed by Schedule 7, or, in the case of a Party electing the FRR Alternative, as prescribed by Schedule 8.1, to install or contract for Capacity Resources. As set forth in Schedule 10, each Party must designate its Capacity Resources as Network Resources or Points of Receipt under the PJM Tariff to allow firm delivery of the output of its Capacity Resources to the Party's load within the PJM Region and each Party must obtain any necessary Firm Transmission Service in an amount sufficient to deliver Capacity Resources from outside the PJM Region to the border of the PJM Region to reliably serve the Party's load within the PJM Region.

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- 7.56 Nature of Resources. Each Party electing to Self-Supply resources, or electing the FRR Alternative, shall provide or arrange for specific, firm Capacity Resources that are capable of supplying the energy requirements of its own load on a firm basis without interruption for economic conditions and with such other characteristics that are necessary to support the reliable operation of the PJM Region, as set forth in more detail in Schedules 6, 9 and 10.
- 7.67 Compliance Audit of Parties. (a) For the 36 months following the end of each Planning Period, each Party shall make available the records and supporting information related to the performance of this Agreement from such Planning Period for audit.
- (b) The Office of the Interconnection shall evaluate and determine the need for an audit of a Party and shall, upon a decision of the Members Committee to require such an audit, provide the Party or Parties to be audited with notice at least 90 days in advance of the audit.
- (c) Any audit of a Party conducted pursuant to this Agreement shall be performed by an independent consultant to be selected by the Office of the Interconnection. Such audit shall include a review of the Party's compliance with the procedures and standards adopted pursuant to this Agreement.
- (d) Prior to the completion of its audit, the independent consultant shall review its preliminary findings with the Party being audited and, upon the completion of its audit, the independent consultant shall issue a final audit report detailing the results of the audit, which final report shall be issued to the Party being audited, the Office of the Interconnection and the Markets and Reliability Committee; provided, however, no confidential data of any Party shall be disclosed through such audit reports.
- (e) If, based on a final audit report, an adjustment is required to any amounts due to or from the Parties pursuant to Schedules 8, 12, or 13, such adjustment shall be accounted for in determining the amounts due to or from the Parties pursuant to Schedules 8, 12, or 13 for the month in which the adjustment is identified.

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# ARTICLE 8 -- DEFICIENCY, DATA SUBMISSION, AND EMERGENCY CHARGES

- 8.1 Nature of Charges. Upon the advice and recommendations of the Members Committee, the PJM Board shall, subject to any Required Approvals, approve certain charges to be imposed on a Party for its failure to satisfy its obligations under this Agreement, as set forth in Schedule 12.
- 8.2 Determination of Charge Amounts. No later than April 1 of each year, the Members Committee shall recommend to the PJM Board such charges to be applicable under this Agreement during the following Planning Period and Schedule 12, which, upon approval by the PJM Board, shall be modified accordingly, subject to the receipt of all Required Approvals. The Markets and Reliability Committee may establish projected charges for estimating purposes only.
- 8.3 Distribution of Charge Receipts. All of the monies received as a result of any charges imposed pursuant to this Agreement shall be disbursed as provided in this Agreement.

#### ARTICLE 9 -- COORDINATED PLANNING AND OPERATION

- 9.1 Overall Coordination. Each Party shall cooperate with the other Parties in the coordinated planning and operation of their owned or contracted for Capacity Resources to obtain a degree of reliability consistent with the Reliability Principles and Standards. In furtherance of such cooperation each Party shall:
- (a) coordinate its Capacity Resource plans with the other Parties to maintain reliable service to its own electric customers and those of the other Parties;
- (b) cooperate with the members and associate members of such Party's Applicable Regional Reliability Council to ensure the reliability of the region;
- (c) make available its Capacity Resources to the other Parties through the Office of the Interconnection for coordinated operation and to supply the needs of the PJM Region for Operating Reserves;
- (d) provide or arrange for Network Transmission Service or Firm Point-to-Point Transmission Service for service to the projected load of the Party and include all Capacity Resources as Network Resources designated pursuant to the PJM Tariff or Points of Receipt for Firm Point-to-Point Transmission Service;
- (e) provide or arrange for sufficient reactive capability and voltage control facilities to meet Good Utility Practice and to be consistent with the Reliability Principles and Standards;
- (f) implement emergency procedures and take such other coordination actions as may be necessary in accordance with the directions of the Office of the Interconnection in times of Emergencies; and

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- (g) maintain or arrange for Black Start Capability for a portion of its Capacity Resources at least equal to that established from time-to-time by the Office of the Interconnection.
- 9.2 Generator Planned Outage Scheduling. Each Party shall develop, or cause to be developed, its schedules of planned outages of its Capacity Resources. Such schedules of planned outages shall be submitted to the Office of the Interconnection for coordination with the schedules of planned outages of other Parties and anticipated transmission planned outages.
- 9.3 Data Submissions. Each Party shall submit to the Office of the Interconnection the data and other information necessary for the performance of this Agreement, including its plans for the addition, modification and removal of Capacity Resources, its load forecasts, and such other data set forth in Schedule 11.
- 9.4 Charges for Failures to Comply. (a) An emergency procedure charge, as set forth in Attachment Y DD to the PJM Tariff, shall be imposed on any Party that fails to comply with the directions of the Office of the Interconnection pursuant to Section 9.1(f)
- (b) A data submission charge, as set forth in Schedule 12, shall be imposed on any Party that fails to submit the data, plans or other information required by this Agreement in a timely or accurate manner as provided in Schedule 11.
- 9.5 Metering. Each Party shall comply with the metering standards for the PJM Region, as set forth in the PJM Manuals.

#### ARTICLE 10 -- SHARED COSTS

- 10.1 Recording and Audit of Costs. (a) Any costs related to the performance of this Agreement, including the costs of the Office of the Interconnection and such other costs that the Members Committee determines are to be shared by the Parties, shall be documented and recorded in a manner acceptable to the Parties.
- (b) The Members Committee may require an audit of such costs; provided, however, the cost records shall be available for audit by any Member or State Consumer Advocate, at the sole expense of such Member or State Consumer Advocate, for 36 months following the end of the Planning Period in which the costs were incurred.
- 10.2 Cost Responsibility. The costs determined under Section 10.1(a) shall be allocated to and recovered from the Parties to this Agreement and other entities pursuant to Schedule 9-5 of the PJM Tariff.

#### **ARTICLE 11 -- BILLING AND PAYMENT**

11.1 Periodic Billing. Each Party shall receive a statement periodically setting forth (i) any amounts due from or to that Party as a result of any charges imposed pursuant to this Agreement and (ii) that Party's share of any costs allocated to that Party pursuant to Article 10.

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To the extent practical, such statements are to be coordinated with any billings or statements required pursuant to the Operating Agreement or PJM Tariff.

- 11.2 Payment. The payment terms and conditions shall be as set forth in the billing statement and shall, to the extent practicable, be the same as those then in effect under the PJM Tariff.
- 11.3 Failure to Pay. If any Party fails to pay its share of the costs allocated pursuant to Article 10, those unpaid costs shall be allocated to and paid by the other Parties hereto in proportion to the sum of the Daily Unforced Capacity Obligations of each such Party for the billing month. The Office of the Interconnection shall enforce collection of a Party's share of the costs.

## ARTICLE 12 -- INDEMNIFICATION AND LIMITATION OF LIABILITIES

- 12.1 Indemnification. (a) Each Party agrees to indemnify and hold harmless each of the other Parties, its officers, directors, employees or agents (other than PJM Interconnection, L.L.C., its board or the Office of the Interconnection) for all actions, claims, demands, costs, damages and liabilities asserted by third parties against the Party seeking indemnification and arising out of or relating to acts or omissions in connection with this Agreement of the Party from which indemnification is sought, except (i) to the extent that such liabilities result from the willful misconduct of the Party seeking indemnification and (ii) that each Party shall be responsible for all claims of its own employees, agents and servants growing out of any workmen's compensation law. Nothing herein shall limit a Party's indemnity obligations under Article 16 of the Operating Agreement.
- (including, without limitation, retroactively) by any insurance proceeds or other amounts actually recovered by the Party seeking indemnification in respect of the indemnified actions, claims, demands, costs, damages or liabilities. If any Party shall have received an indemnity payment in respect of an indemnified action, claim, demand, cost, damage, or liability and shall subsequently actually receive insurance proceeds or other amounts in respect of such action, claim, demand, cost, damage, or liability, then such Party shall pay to the Party that made such indemnity payment the lesser of the amount of such insurance proceeds or other amounts actually received and retained or the net amount of the indemnity payments actually received previously.
- 12.2 Limitations on Liability. No Party will be liable to another Party for any claim for indirect, incidental, special or consequential damage or loss of the other Party including, but not limited to, loss of profits or revenues, cost of capital or financing, loss of goodwill and cost of replacement power arising from such Party's carrying out, or failure to carry out, any obligations contemplated by this Agreement; provided, however, nothing herein shall be deemed to reduce or limit the obligation of any Party with respect to the claims of persons or entities not a party to this Agreement.
- 12.3 Insurance. Each Party shall obtain and maintain in force such insurance as is required of Load Serving Entities by the states in which it is doing business within the PJM Region.

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#### ARTICLE 13 -- SUCCESSORS AND ASSIGNS

- 13.1 Binding Rights and Obligations. The rights and obligations created by this Agreement and all Schedules and supplements thereto shall inure to and bind the successors and assigns of the Parties; provided, however, no Party may assign its rights or obligations under this Agreement without the written consent of the Members Committee unless the assignee concurrently becomes the Load Serving Entity with regard to the end-users previously served by the assignor.
- 13.2 Consequences of Assignment. Upon the assignment of all of its rights and obligations hereunder to a successor consistent with the provisions of Section 13.1, the assignor shall be deemed to have withdrawn from this Agreement.

## **ARTICLE 14 -- NOTICE**

Except as otherwise expressly provided herein, any notice required hereunder shall be in writing and shall be sent: overnight courier, hand delivery, telecopy or other reliable electronic means to the representative on the Members Committee of such Party at the address for such Party previously provided by such Party to the other Parties. Any notice shall be deemed to have been given (i) upon delivery if given by overnight courier, hand delivery or certified mail or (ii) upon confirmation if given by facsimile or other reliable electronic means.

#### ARTICLE 15 -- REPRESENTATIONS AND WARRANTIES

- 15.1 Initial Representations and Warranties. Each Party represents and warrants to the other Parties that, as of the date it becomes a Party:
- (a) the Party is duly organized, validly existing and in good standing under the laws of the jurisdiction where organized;
- (b) the execution and delivery by the Party of this Agreement and the performance of its obligations hereunder have been duly and validly authorized by all requisite action on the part of the Party and do not conflict with any applicable law or with any other agreement binding upon the Party. The Agreement has been duly executed and delivered by the Party, and this Agreement constitutes the legal, valid and binding obligation of the Party enforceable against it in accordance with its terms except insofar as the enforceability thereof may be limited by applicable bankruptcy, insolvency, reorganization, fraudulent conveyance, moratorium or other similar laws affecting the enforcement of creditor's rights generally and by general principles of equity regardless of whether such principles are considered in a proceeding at law or in equity; and
- (c) there are no actions at law, suits in equity, proceedings or claims pending or, to the knowledge of the Party, threatened against the Party before or by any federal, state, foreign or local court, tribunal or governmental agency or authority that might materially delay, prevent or hinder the performance by the Party of its obligations hereunder.

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- 15.2 Continuing Representations and Warranties. Each Party represents and warrants to the other Parties that throughout the term of this Agreement:
  - (a) the Party is a Load Serving Entity;
  - (b) the Party satisfies the requirements of Schedule 2;
  - (c) the Party is in compliance with the Reliability Principles and Standards;
- (d) the Party is a signatory, or its principals are signatories, to the agreements set forth in Schedule 3;
  - (e) the Party is in good standing in the jurisdiction where incorporated; and
- (f) the Party will endeavor in good faith to obtain any corporate or regulatory authority necessary to allow the Party to fulfill its obligations hereunder.

### **ARTICLE 16 -- OTHER MATTERS**

- 16.1 Relationship of the Parties. This Agreement shall not be interpreted or construed to create any association, joint venture, or partnership between or among the Parties or to impose any partnership obligation or partnership liability upon any Party.
- 16.2 Governing Law. This Agreement shall be interpreted, construed and governed by the laws of the State of Delaware.
- 16.3 Severability. Each provision of this Agreement shall be considered severable and if for any reason any provision is determined by a court or regulatory authority of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions of this Agreement shall continue in full force and effect and shall in no way be affected, impaired or invalidated, and such invalid, void or unenforceable provision shall be replaced with valid and enforceable provision or provisions which otherwise give effect to the original intent of the invalid, void or unenforceable provision.
- 16.4 Amendment. This Agreement may be amended only by action of the PJM Board. Notwithstanding the foregoing, an Applicant cligible to become a Party in accordance with the procedures set forth in Article 4 shall become a Party by executing a counterpart of this Agreement without the need for execution of such counterpart by any other Party. The PJM Office of the Interconnection shall file with FERC any amendment to this Agreement approved by the PJM Board.
- 16.5 Headings. The article and section headings used in this Agreement are for convenience only and shall not affect the construction or interpretation of any of the provisions of this Agreement.
- 16.6 Confidentiality. (a) No Party shall have a right hereunder to receive or review any documents, data or other information of another Party, including documents, data or other

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information provided to the Office of the Interconnection, to the extent such documents, data or information have been designated as confidential pursuant to the procedures adopted by the Office of the Interconnection or to the extent that they have been designated as confidential by another Party; provided, however, a Party may receive and review any composite documents, data and other information that may be developed based on such confidential documents, data or information if the composite document does not disclose any individual Party's confidential data or information.

- (b) Notwithstanding anything in this Section to the contrary, if a Party is required by applicable laws, or in the course of administrative or judicial proceedings, to disclose information that is otherwise required to be maintained in confidence pursuant to this Section, that Party may make disclosure of such information; provided, however, that as soon as the Party learns of the disclosure requirement and prior to making disclosure, that Party shall notify the affected Party or Parties of the requirement and the terms thereof and the affected Party or Parties may direct, at their sole discretion and cost, any challenge to or defense against the disclosure requirement and the Party shall cooperate with such affected Parties to the maximum extent practicable to minimize the disclosure of the information consistent with applicable law. Each Party shall cooperate with the affected Parties to obtain proprietary or confidential treatment of such information by the person to whom such information is disclosed prior to any such disclosure.
- (c) Any contract with a contractor retained to provide technical support or to otherwise assist with the administration of this Agreement shall impose on that contractor a contractual duty of confidentiality that is consistent with this Section.
- 16.7 Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be an original but all of which together will constitute one instrument, binding upon all parties hereto, notwithstanding that all of such parties may not have executed the same counterpart.
- 16.8 No Implied Waivers. The failure of a Party to insist upon or enforce strict performance of any of the provisions of this Agreement shall not be construed as a waiver or relinquishment to any extent of such Party's right to assert or rely upon any such provisions, rights and remedies in that or any other instance; rather, the same shall be and remain in full force and effect.
- 16.9 No Third Party Beneficiaries. This Agreement is intended to be solely for the benefit of the Parties and their respective successors and permitted assigns and is not intended to and shall not confer any rights or benefits on any third party not a signatory hereto.
- 16.10 Dispute Resolution. Except as otherwise specifically provided in the Operating Agreement, disputes arising under this Agreement shall be subject to the dispute resolution provisions of the Operating Agreement.

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IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representatives.

[Signatures]

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#### **SCHEDULE 1**

## PROCEDURES TO BECOME A PARTY

#### A. Notice

Any entity that is or will become a Load Serving Entity within the PJM Region and thus a Party to the Reliability Assurance Agreement shall submit a notice to the Office of the Interconnection together with (i) its representation that it has satisfied or will (prior to the date the Reliability Assurance Agreement is to become effective as to that entity) satisfy the requirements to become a Party, (ii) all data required to coordinate planning and operations within the PJM Region as applicable, in a format defined in the PJM Manuals, and (iii) a deposit in an amount to be specified that will be applied toward the costs of the required analysis.

The required notice, representations, data and deposit must be submitted in sufficient time to conduct an analysis of the data submitted and to adjust the obligations of the Parties for the month in which the entity desires to become a Party:

- If the then existing boundaries of the PJM Region would be expanded by an entity becoming a Party, that entity shall submit the required notice, representation, data and deposit no later than when the entity applies for transmission service under the PJM Tariff.
- If an entity will serve load within the then existing boundaries of the PJM Region, that entity shall submit the required notice, representations, data and deposit as soon as possible prior to the month (i) in which it is to begin serving loads within the PJM Region or (ii) in which any agency relationship through which the entity's obligations under this Agreement had been satisfied is terminated; provided, however, that such submission shall not be required sooner than any request for transmission service or any change in the designation of Network Resources or points of receipt and loads under the PJM Tariff associated with providing service to those loads.

#### B. Analysis of Data

The notice, representations and data submitted to the Office of the Interconnection are to be analyzed in accordance with procedures consistent with this Agreement and the encouragement of reliable operation of the PJM Region.

### C. Response

Upon completion of the analysis, the Office of the Interconnection will inform the entity of (a) the estimated costs and expenses associated with modifications to communication, computer and other facilities and procedures, including any filing fees, needed to include the entity as a Party, (b) the entity's share of any costs pursuant to Article 10, and (c) the earliest

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date upon which the entity could become a Party. In addition, a counterpart of the Agreement shall be forwarded for execution.

### D. Agreement by New Party

After receipt of the response from the Office of the Interconnection, the entity shall identify its representative to the Members Committee and Markets and Reliability Committee and execute the counterpart of the Agreement, indicating the desired effective date; provided, however, such effective date shall be the first day of a month, may be no earlier than the date indicated in the response from the Office of the Interconnection and shall be no later than (i) the date on which the entity begins serving loads within the PJM Region or (ii) the termination date of any agency relationship through which its obligations under this Agreement had been satisfied. The executed counterpart of the Agreement, together with payment of its share of any costs then due, shall be returned as directed by the Office of the Interconnection.

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#### **SCHEDULE 2**

## STANDARDS FOR INTEGRATING AN ENTITY INTO THE PJM REGION

- A. The following standards will be applied by the Office of the Interconnection to determine the eligibility of an entity to become a part of the PJM Region. For an entity to be integrated into the PJM Region it must possess generation and transmission attributes that would enable the entity to share its reserves with other entities in the PJM Region. Appropriate transmission and reliability studies are to be performed to determine the adequate transmission capability necessary to integrate the entity into the PJM Region consistent with Good Utility Practice.
- B. In addition, the entity shall meet the following requirements to be included in the PJM Region:
  - 1. All load, generation and transmission operating as part of the PJM Region's interconnected system must be included within the metered boundaries of the PJM Region.
  - 2. The entity will accept and comply with the PJM Region's standards with respect to system design, equipment ratings, operating practices and maintenance practices as set forth in the PJM Manuals so that sufficient electrical equipment, control capability, information and communication are available to the Office of the Interconnection for planning and operation of the PJM Region.
  - 3. The load, generation and transmission facilities of each entity shall be included in the telemetry to the Office of the Interconnection from a 24-hour control center. Each system operator in these control centers must be trained and delegated sufficient authority to take any action necessary to assure that the system for which the operator is responsible is operated in a stable and reliable manner.
  - 4. Each entity must have compatible operational communication mechanisms, maintained at its expense, to interact with the Office of the Interconnection and for internal requirements.
  - 5. Each entity must assure the continued compatibility of its local system energy management system monitoring and telecommunications systems to satisfy the technical requirements of interacting with the Office of the Interconnection as it directs the operation of the PJM Region.

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## **SCHEDULE 3**

# OTHER AGREEMENTS TO BE EXECUTED BY THE PARTIES

- Any agreement for Network Transmission Service or Firm Point-To-Point Service that is required under the PJM Tariff for service consistent with the requirements of Section 9.1(d); and
- The Operating Agreement.

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#### **SCHEDULE 4**

# **GUIDELINES FOR DETERMINING THE FORECAST POOL REQUIREMENT**

# A. Objective Of The Forecast Pool Requirement

The Forecast Pool Requirement shall be determined for the specified Planning Periods to establish the level of Capacity Resources that will provide an acceptable level of reliability consistent with the Reliability Principles and Standards.

# B. Forecast Pool Requirement and PJM Region Installed Reserve Margin To Be Determined Annually

No later than one three months in advance of each Base Residual Auction for a Delivery Year, based on the projections described in section C of this Schedule, and after consideration of the recommendation of the Members Committee, the PJM Board shall establish the Forecast Pool Requirement, including the PJM Region Installed Reserve Margin for the all Parties, including FRR Entities, for such Delivery Year. Unless otherwise agreed by the PJM Board, the Forecast Pool Requirement and PJM Region Installed Reserve Margin for such Planning Period shall be considered firm and not subject to re-determination thereafter.

# C. Methodology

Each year, the Forecast Pool Requirement for at least each of the next five Planning Periods shall be projected by applying suitable probability methods to the data and forecasts provided by the Parties and obtained from Electric Distributors, as described in Schedule 11, the Operating Agreement and in the PJM Manuals. The projection of the Forecast Pool Requirement shall consider the following data and forecasts as necessary:

- 1. Seasonal peak load forecasts for each Planning Period as calculated by PJM in accordance with the PJM Manuals reflecting (a) load forecasts with a 50 percent probability of being too high or too low and (b) summer peak diversities determined by the Office of the Interconnection from recent experience.
- 2. Forecasts of aggregate seasonal load shape of the Parties which are consistent with forecast averages of 52 weekly peak loads prepared by the Parties and obtained from Electric Distributors for their respective systems.
- 3. Variability of loads within each week, due to weather and other recurring and random factors, as determined by the Office of the Interconnection.
- 4. Generating unit capability and types for every existing and proposed unit.
- Generator Forced Outage rates for existing mature generating units, as determined by the Office of the Interconnection, based on data submitted by the Parties for their respective systems, from recent experience, and for immature and proposed

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units based upon forecast rates related to unit types, capabilities and other pertinent characteristics.

- 6. Generator Maintenance Outage factors and planned outage schedules as determined by the Office of the Interconnection based on forecasts and historical data submitted by the Parties for their respective systems.
- 7. Miscellaneous adjustments to capacity due to all causes, as determined by the Office of the Interconnection, based on forecasts submitted by the Parties for their respective systems.
- 8. The emergency capacity assistance available as a function of interconnections of the PJM Region with other Control Areas, as limited by the capacity benefit margin considered in the determination of available transfer capability and the probable availability of generation in excess of load requirements in such areas.

## D. Capacity Benefit Margin

The capacity benefit margin initially shall be 3,500 megawatts. Periodically, in consultation with the Members Committee, the Office of the Interconnection shall review and modify, if necessary, the capacity benefit margin to balance external emergency capacity assistance and internal installed capacity reserves so as to minimize the total cost of the capacity reserves of the Parties, consistent with the Reliability Principles and Standards. The Office of the Interconnection will reflect such modification prospectively in its development of the Forecast Pool Requirement for future Planning Periods.

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#### **SCHEDULE 4.1**

# **DETERMINATION OF THE FORECAST POOL REQUIREMENT**

A. Based on the guidelines set forth in Schedule 4, the Forecast Pool Requirement, in percent, shall be determined as set forth in this Schedule 4.1 on an unforced capacity basis.

 $FPR = (100 + IRM/100) * (1-Pool-wide average EFOR_D/100)$ 

where

average EFOR<sub>D</sub> - the average equivalent demand forced outage rate for the PJM Region, stated in percent and determined in accordance with Section B hereof

IRM = the PJM Region Installed Reserve Margin approved by the PJM Board for that Planning Period, stated in percent

B. The PJM Region equivalent demand forced outage rate ("average EFOR<sub>D</sub>") shall be determined as the capacity weighted EFOR<sub>D</sub> for all units expected to serve loads within the PJM Region during the Delivery Year, as determined pursuant to Schedule 5.

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# SCHEDULE 5 FORCED OUTAGE RATE CALCULATION

A. The equivalent demand forced outage rate ("EFOR<sub>D</sub>") shall be calculated as follows:

 $EFOR_{D}$  (%) - {( $f_f * FOH + f_p * EFPOH$ ) / ( $SH + f_f * FOH$ )} \* 100

where

f<sub>f</sub> = full outage factor f<sub>p</sub> = partial outage factor FOH = full forced outage hours EFPOH = equivalent forced partial outage hours SH = service hours

B. Calculation of EFOR<sub>D</sub> for individual Generation Capacity Resources.

For each Delivery Year, EFOR<sub>D</sub> shall be calculated at least one month prior to the start of the Third Incremental Auction for: (i) each Generation Capacity Resource for which a sell offer will be submitted in such Third Incremental Auction; and (ii) each Generation Capacity Resource previously committed to serve load in such Delivery Year pursuant to an FRR Capacity Plan or prior auctions for such Delivery Year. Such calculation shall be based upon such resource's service history in the twelve (12) consecutive months ending September 30 last preceding such auction. Historical data shall be based on official reports of the Parties under rules and practices set forth in the PJM Manuals. Such rate shall also include (i) an adjustment, if any, for capacity unavailable due to energy limitations determined in accordance with definitions and criteria set forth in the PJM Manuals and (ii) any other adjustments approved by the Members Committee to adjust the parameters of a designated unit. For purposes of the calculations under this Paragraph B, outages deemed to be outside plant management control in accordance with NERC guidelines shall not be considered.

- 1. The EFOR<sub>D</sub> of a unit in service twelve or more full calendar months prior to the calculation month shall be the average rate experienced by such unit during the twelve-month period specified above. Historical data shall be based on official reports of the Parties under rules and practices set forth in the PJM Manuals.
- 2. The EFOR<sub>D</sub> of a unit in service at least one full calendar month but less than the twelve-month period specified above shall be the average of the EFOR<sub>D</sub> experienced by the unit weighted by full months of service, and the class average rate for units with that capability and of that type weighted by a factor of [(twelve) minus (the number of months the unit was in service)]. Historical data shall be based on official reports of the Parties under rules and practices set forth in the PJM Manuals.
- C. Calculation of average EFOR<sub>D</sub> for the PJM Region

The forecast average EFOR<sub>D</sub> for the PJM Region in a Delivery Year shall be the average of the forced outage rates, weighted for unit capability and expected time in service,

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attributable to all of the Generation Capacity Resources within the PJM Region, that are planned to be in service during the Delivery Year, including Generation Capacity Resources sold outside the PJM Region from specified units. Such rate shall also include (i) an adjustment, if any, for capacity unavailable due to energy limitations determined in accordance with definitions and criteria set forth in the PJM Manuals and (ii) any other adjustments developed by the Office of Interconnection and maintained in the PJM Manuals to adjust the parameters of a designated unit when such parameters are or will be used to determine a future PJM Region reserve requirement and such adjustment is required to more accurately predict the future performance of such unit in light of extraordinary circumstances. For the purposes of this Schedule, the average EFOR<sub>D</sub> shall be the average of the capacity-weighted EFOR<sub>D</sub>s of all units committed to serve load in the PJM Region; and for purposes of the EFOR<sub>D</sub> calculations under this Paragraph C, outages deemed to be outside plant management control in accordance with NERC guidelines shall be considered. All rates shall be in percent.

- 1. The EFOR<sub>D</sub> of a unit not yet in service or which has been in service less than one full calendar year at the time of forecast shall be the class average rate for units with that capability and of that type, as estimated and used in the calculation of the Forecast Pool Requirement.
- 2. The EFOR<sub>D</sub> of a unit in service five or more full calendar years at the time of forecast shall be the average rate experienced by such unit during the five most recent calendar years. Historical data shall be based on official reports of the Parties under rules and practices developed by the Office of Interconnection and maintained in the PJM Manuals.
- 3. The EFOR<sub>D</sub> of a unit in service at least one full calendar year but less than five full calendar years at the time of the forecast shall be determined as follows:

# Full Calendar Years of Service

ı	plus four-fifths the class average rate.
2	Two-fifths the average rate experienced during the two calendar years, plus three-fifths the class average rate.
3	Three-fifths the average rate experienced during the three calendar years, plus two-fifths the class average rate.
4	Four-fifths the average rate experienced during the four calendar years, plus one-fifth the class average rate.

One-fifth the rate experienced during the calendar year

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#### **SCHEDULE 6**

#### PROCEDURES FOR DEMAND RESOURCES AND ILR

- A. Parties can partially or wholly offset the amounts payable for the Locational Reliability Charge with Demand Resources or ILR 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. In addition, resources qualifying under the criteria set forth below may be certified as ILR on behalf of a Party that has not elected the FRR Alternative for a Delivery Year no later than three months prior to the first day of such Delivery Year. Qualified Demand Resources and ILR may be provided by a Demand Resource Provider or ILR Provider, notwithstanding that such provider is not a Party to this Agreement.
  - 1. A Party must formally notify, in accordance with the requirements of the PJM Manuals and paragraph G of this schedule as applicable, the Office of the Interconnection of the Demand Resource or ILR that it is placing under the direction of the Office of the Interconnection.
  - 2. A Party must agree to reserve, for interruption at the direction of the Office of the Interconnection, at least 10 interruptions per Planning Period.
  - 3. The Demand Resource or ILR must be available during the summer period of June through September in the corresponding Delivery Year to be certified, or to be offered for sale or Self-Supplied in an auction, or included as Demand Response in an FRR Capacity Plan for the corresponding Delivery Year.
  - 4. A period of no more than 2 hours prior notification must apply to interruptible customers.
  - 5. The initiation of load interruption, 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.
  - 6. The initiation of load reduction upon the request of the Office of the Interconnection is considered an emergency action and must be implementable prior to a voltage reduction.
  - 7. A Party must agree to reserve interruptions of at least 6-hour duration. As a minimum, such 6-hour duration for interruptions should be available on weekdays during the 8-hour daily peak window for the appropriate season. There will be no credit given to Parties who choose to provide interruption less than 6 hours and/or exclusive of the above time period.

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- 8. An entity offering for sale, or designating for self-supply, or including in any FRR Capacity Plan any Planned Demand Resource must demonstrate, in accordance with standards and procedures set forth in the PJM Manuals, 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.
- B. The Unforced Capacity value of a Demand Resource and ILR will be determined as:

the product of the Nominated Value of the Demand Resource, or the Nominated Value of the ILR, times the DR Factor, times the Forecast Pool Requirement. The DR Factor is a factor established by the PJM Board with the advice of the Members Committee to reflect the increase in the peak load carrying capability in the PJM Region due to Demand Resources and ILR for the PJM Region divided by the total Nominated Value of Demand Resources and ILR in the PJM Region. The DR Factor will be determined using an analytical program that uses a probabilistic approach to determine reliability. The determination of the DR Factor will consider the reliability of Demand Resources and ILR, the number of interruptions, and the total amount of load reduction. The detailed procedures used for calculating the DR Factor shall be set forth in 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 determined in such auction, in accordance with Attachment Y DD of the PJM Tariff. Demand Resources are ineligible to receive any operational reliability constraint price adders.
- D. Certified ILR resources shall receive the Adjusted Zonal Capacity Price, less the amount paid in CTR credits per MW of load in the Zone in which such resource is offered, less any price adders for binding operational reliability constraints, in accordance with Attachment Y DD of the PJM Tariff.
- E. The Party, Electric Distributor, Demand Resource Provider, or ILR 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 sections C and D for a committed Demand Resource or certified ILR, notwithstanding that such provider is not the customer's energy supplier.
- F. Any Party hereto shall demonstrate that its Demand Resources or ILR 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. In addition, committed Demand Resources and certified ILR 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 Attachment Y DD to the PJM Tariff.

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G. Prior to the commencement of the Planning Period. 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 Planning PeriodDelivery 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.

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#### SCHEDULE 7

# PLANS TO MEET OBLIGATIONS

- A. Each Party that elects to meet its estimated obligations for a Delivery Year by Self-Supply of Capacity Resources shall submit to the Office of the Interconnection, no later than one month prior to the start of the Base Residual Auction for such Delivery Year, its plans for such Capacity Resources, including (1) installation of Generation Capacity Resources (2) purchases, and (3) installation of Demand Resources or ILR.
- B. The Capacity Resource plans of each Party shall indicate the nature and current status of each resource, including the status of a Planned Generation Capacity Resource or Planned Demand Resource, the potential for deactivation or retirement of a Generation Capacity Resource or Demand Resource, and the status of commitments for each sale or purchase of capacity included in its plans. The Office of the Interconnection will review the adequacy of the submittals hereunder both as to timing and content.
- C. A Party that Self-Supplies Capacity Resources to satisfy its obligations for a Delivery Year must submit a Sell Offer as to such resource in the Base Residual Auction for such Delivery Year, in accordance with Attachment Y DD to the PJM Tariff.
- D. If, at any time after the close of the Third Incremental Auction for a Delivery Year, including at any time during such Delivery Year, a Capacity Resource that a Party has committed as a Self-Supplied Capacity Resource becomes physically incapable of delivering capacity or reducing load, the Party may submit a replacement Capacity Resource to the Office of the Interconnection. Such replacement Capacity Resource (1) may not be previously committed for such Delivery Year, (2) shall be capable of providing the same quantity of megawatts of capacity or load reduction as the originally committed Capacity Resource, and (3) shall be located in the same Locational Deliverability Area, if applicable, as the originally committed resource, and (4) shall, if applicable, be capable of satisfying Resource Operational Reliability Requirements to the same extent as the original committed Capacity Resource. In accordance with Attachment Y-DD to the PJM Tariff, the Office of the Interconnection shall determine the acceptability of the replacement Capacity Resource.

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#### **SCHEDULE 8**

# **DETERMINATION OF UNFORCED CAPACITY OBLIGATIONS**

A. For each billing month during a Delivery Year, the Daily Unforced Capacity Obligation of a Party that has not elected the FRR Alternative for such Delivery Year shall be determined on a daily basis for each Zone as follows:

Daily Unforced Capacity Obligation - OPL -x Final Zonal RPM Scaling Factor x FPR/100

Where:

OPL = Obligation Peak Load, defined as the daily summation of the weather-adjusted coincident summer peak, last preceding the Delivery Year, of the end-users in such Zone (net of operating Behind The Meter Generation, but not to be less than zero) for which such Party was responsible on that billing day, as determined in accordance with the procedures set forth in the PJM Manuals

Final Zonal RPM Scaling Factor = the factor determined as set forth in sections B and C of this Schedule

FPR = the Forecast Pool Requirement

Netting of Behind the Meter Generation for a Party with regard to Non-Retail Behind the Meter Generation shall be subject to the following limitation:

For the 2006/2007 Planning Period, 100 percent of the operating Non-Retail Behind the Meter Generation shall be netted, provided that the total amount of Non-Retail Behind the Meter Generation in the PJM Region does not exceed 1500 megawatts ("Non-Retail Threshold"). For each Planning Period/Delivery Year thereafter, the Non-Retail threshold shall be proportionately increased based on load growth in the PJM Region but shall not be greater than 3000 megawatts. Load growth shall be determined by the Office of the Interconnection based on the most recent forecasted weather-adjusted coincident summer peak for the PJM Region divided by the weather-adjusted coincident peak for the previous summer for the same area. After the load growth factor is applied, the Non-Retail Threshold will be rounded up or down to the nearest whole megawatt and the rounded number shall be the Non-Retail Threshold for the current Planning Period and the base amount for calculating the Non-Retail Threshold for the succeeding planning period. If the Non-Retail Threshold is exceeded, the amount of operating Non-Retail Behind the Meter Generation that a Party may net shall be adjusted according to the following formula:

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Party Netting Credit = (NRT/PJM NRBTMG) \* Party Operating NRBTMG

Where: NRBTMG is Non-Retail Behind the Meter Generation

NRT is the Non-Retail Threshold

PJM NRBTMG is the total amount of Non-Retail Behind the Meter Generation in the PJM Region

The total amount of Non-Retail Behind the Meter Generation that is eligible for netting in the PJM Region is 3000 megawatts. Once this 3000 megawatt limit is reached, any additional Non-Retail Behind the Meter Generation which operates in the PJM Region will be ineligible for netting under this section.

In addition, the Party NRBTMG Netting Credit shall be adjusted pursuant to Schedule of this Agreement, if applicable.

A Party shall be required to report to PJM such information as is required to facilitate the determination of its NRBTMG Netting Credit in accordance with the procedures set forth in the PJM Manuals.

B. Following the Base Residual Auction for a Delivery Year, the Office of the Interconnection shall determine the Base Zonal RPM Scaling Factor and the Base Zonal Unforced Capacity Obligation for each Zone for such Delivery Year as follows:

Base Zonal Unforced Capacity Obligation = (ZWNSP \* Base Zonal RPM Scaling Factor \* FPR) + Forecast Zonal II.R Obligation

and

Base Zonal RPM Scaling Factor = ZPLDY/ZWNSP x [RUCO / (RPLDY x FPR)]

Where:

ZPLDY = Preliminary Zonal Peak Load Forecast for such Delivery Year

ZWNSP = Zonal Weather-Normalized Summer Peak for the summer season concluding five-four years prior to the commencement of such Delivery Year

RUCO = the Base RTO Unforced Capacity Obligation satisfied in the Base Residual Auction for such Delivery Year.

RPLDY = RTO Preliminary Peak Load Forecast for such Delivery Year.

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For purposes of such determination, PJM shall determine the Preliminary RTO Peak Load Forecast, and the Preliminary Zonal Peak Load Forecasts for each Zone, in accordance with the PJM Manuals for each Delivery Year no later than one month prior to the Base Residual Auction for such Delivery Year. PJM shall determine the Final RTO and Zonal Peak Load Forecasts in accordance with the PJM Manuals for each Delivery Year no later than one month prior to the Second Incremental Auction for such Delivery Year; provided, however, that if the Second Incremental Auction is not conducted, the Preliminary RTO and Zonal Peak Load Forecasts for the Delivery Year shall be the Final RTO and Zonal Peak Load Forecasts, respectively, for such year. PJM shall determine the most recent Weather Normalized Summer Peak for each Zone no later than seven months prior to the start of the Delivery Year, and shall calculate the RTO Weather Normalized Summer Peak as the sum of the Weather Normalized Summer Peaks for all Zones.

- C. The Final RTO Unforced Capacity Obligation for a Delivery Year shall be equal to the sum of (i) the unforced capacity obligations satisfied through the Base Residual Auction and the Second Incremental Auction, if held, and (ii) the Forecast RTO ILR Obligation for such Delivery Year, times the DR Factor, times the Forecast Pool Requirement. The Final Zonal Unforced Capacity Obligation shall be equal to the sum of (i) the Base Zonal Unforced Capacity Obligation, and (ii) the unforced capacity obligation satisfied in the Second Incremental Auction times (the increase in the Final Zonal Peak Load Forecast from the Preliminary Zonal Peak Load Forecast divided by the increase in the RTO Final Peak Load Forecast from the RTO Preliminary Peak Load Forecast). If a Second Incremental Auction is not conducted, the Final Zonal Unforced Capacity Obligation shall be equal to the Base Zonal Unforced Capacity Obligation. The Final Zonal RPM Scaling Factor shall be equal to the Final Zonal Unforced Capacity Obligation divided by (FPR times the Zonal Weather Normalized Summer Peak for the summer concluding prior to the commencement of such Delivery Year).
- D. 1. No later than five months prior to the start of each Delivery Year, the Electric Distributor for a Zone shall allocate the most recent Weather Normalized Summer Peak for such Zone to determine the Obligation Peak Load for each end-use customer within such Zone.
  - 2. During the Delivery Year, no later than 36 hours prior to the start of each operating day, the Electric Distributor shall provide to PJM for each Party to this Agreement serving load in such Electric Distributor's Zone the Obligation Peak Load for all end-use customers served by such Party in such Zone. The daily Unforced Capacity Obligation of a Party for such Operating Day shall not be subject to change thereafter.
  - 3. For purposes of such allocations, the daily sum of the Obligation Peak Loads of all Parties serving load in a Zone must equal the Zonal Obligation Peak Load for such Zone.

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#### **SCHEDULE 8.1**

# FIXED RESOURCE REQUIREMENT ALTERNATIVE

A. The Fixed Resource Requirement ("FRR") Alternative provides an alternative means, under the terms and conditions of this Schedule, for an eligible Load-Serving Entity to satisfy its obligation hereunder to commit Unforced Capacity to ensure reliable service to loads in the PJM Region.

# B. Eligibility

- 1. Except as provided in subsection B.3 below, a Party is eligible to select the FRR Alternative if it (a) is an IOU, Electric Cooperative, or Public Power Entity; and (b) demonstrates the capability to satisfy the Unforced Capacity obligation for all load in an FRR Service Area, including all expected load growth in such area, for the term of such Party's participation in the FRR Alternative.
- 2. A Party eligible under B.1 above may select the FRR Alternative only as to all of its load in the PJM Region; provided however, that a Party may select the FRR Alternative for only part of its load in the PJM Region if (a) the Party elects the FRR Alternative for all load (including all expected load growth) in one or more FRR Service Areas; (b) the Party complies with the rules and procedures of the Office of the Interconnection and all relevant Electric Distributors related to the metering and reporting of load data and settlement of accounts for separate FRR Service Areas; and (c) the Party separately allocates its Capacity Resources to and among FRR Service Areas in accordance with rules specified in the PJM Manuals.
- 3. Single Customer LSEs as identified in accordance with subsection B.3.a belows shall be eligible to elect the FRR Alternative upon the terms and conditions of this Schedule and the following additional terms and conditions. The aggregate Obligation Peak Load of all Single Customer LSEs electing the FRR Alternative in the PJM Region shall not exceed 1000 MW.
  - Single-Customer LSEs eligible for the FRR Alternative shall be limited to those that (i) signed that certain Settlement Agreement dated September 29, 2006 in FERC Docket Nos. ER05-1410 and EL05-148 (or is an entity that was a named member of an association or coalition that was a signatory to such settlement and did not file or join in any comments opposing such settlement); and (ii) elected the FRR Alternative on or before April 1, 2008. The Office of the Interconnection, as necessary, shall establish and post in the PJM Manuals open-season procedures to apportion the maximum allowed service under the FRR Alternative among interested Single-Customer LSEs.
  - b) The Single-Customer LSE must install and maintain wholesale metering at each location that is monitored by, and regularly reported to, the Office of the Interconnection.
  - c) Each Single-Customer LSE warrants that (i) it has and shall maintain and enforce the contract right during the term of its election of the FRR Alternative to prohibit

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its retail customer(s) from terminating service from the Single-Customer LSE and obtaining such service from a different LSE; and (ii) it has and shall maintain for such term Financial Security or a Corporate Guaranty, both as defined in Attachment Q to the PJM Tariff, in an amount sufficient to cover any charge assessed under subsection B.3.e. A Single-Customer LSE will not violate its requirement under this subsection in the event that the retail customer terminates its service from the Single-Customer LSE and obtains service from an LSE that is an FRR Entity, provided that the Single-Customer LSE assigns Capacity Resources to the LSE providing such service in an amount equal to the Daily Unforced Capacity Obligation related to such retail customer.

- d) Each Single-Customer LSE shall obtain from its retail customer(s) and provide to the Office of the Interconnection and the entity designated under state law, order, or rule as such customer's default service provider or provider of last resort and the Electric Distributor a written statement agreeing that in the event such customer terminates its service from the Single-Customer LSE and obtains such service from a Party that is not an FRR Entity, then such customer's load shall be treated as ILR for the remaining duration of the period for which such Single-Customer LSE had elected the FRR Alternative, that for such purpose the Electric Distributor is authorized to obtain certification of such load as ILR, and that the customer agrees to provide the Electric Distributor with all information required for such certification. Nothing in this provision shall preclude such customer from using its owned or controlled generation to facilitate the interruption of its load as ILR.
- A Single-Customer LSE shall be assessed an Unauthorized Load Transfer Charge in the event such LSEs retail customer terminates its service from such LSE and obtains service from a Party that has not elected the FRR Alternative, or in the event such load transfer occurs to a Party that has elected the FRR Alternative, but the Single-Customer LSE does not transfer sufficient Capacity Resources as required by subsection B.3.c. Such charge shall equal two times the Cost of New Entry times the Daily Unforced Capacity Obligation related to such customer for the remaining duration of the period for which such Single-Customer LSE elected the FRR Alternative.
- Each Single Customer LSE shall provide to the Office of the Interconnection an FRR Capacity Plan in accordance with this schedule. Such FRR Capacity Plan, in addition to complying with all other applicable requirements of this Schedule, shall identify and commit for at least five delivery years Capacity Resources sufficient to satisfy such LSEs Daily Unforced Capacity Obligations hereunder consisting of generation assets or physical supply contracts that qualify as a 'forward contract' or a 'commodity contract' under the U.S. Bankruptcy Code. Each Single-Customer LSE warrants that all generation assets and forward supply contracts included in its FRR Capacity Plan shall be assigned to any successor-ininterest of its retail customer(s)'s assets and operations

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

- 1. No less than two 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.
- 2. An FRR Entity may terminate its election of the FRR Alternative effective with the commencement of any Delivery Year following the minimum five Delivery Year commitment by providing written notice of such termination to the Office of the Interconnection no later than two months prior to the Base Residual Auction for such Delivery Year. An FRR Entity that has terminated its election of the FRR Alternative shall not be eligible to re-elect the FRR Alternative for a period of five consecutive Delivery Years following the effective date of such termination.
- 3. Notwithstanding subsections C.1 and C.2 of this Schedule, in the event of a State Regulatory Structural Change, a Party may elect, or terminate its election of, the FRR Alternative effective as to any Delivery Year by providing written notice of such election or termination to the Office of the Interconnection in good faith as soon as the Party becomes aware of such State Regulatory Structural Change but in any event no later than two months prior to the Base Residual Auction for such Delivery Year.
- 4. To facilitate the elections and notices required by this Schedule, the Office of the Interconnection shall post, in addition to the information required by Section 5.11(a) of Attachment DD to the PJM Tariff, the percentage of Capacity Resources required to be located in each Locational Deliverability Area by no later than one month prior to the deadline for a Party to provide such elections and notices.

## D. FRR Capacity Plans

- 1. Each FRR Entity shall submit its initial FRR Capacity Plan as required by subsection C.1 of this Schedule, and shall annually extend and update such plan by no later than one month prior to the Base Residual Auction for each succeeding Delivery Year in such plan. Each FRR Capacity Plan shall indicate the nature and current status of each resource, including the status of each Planned Generation Capacity Resource or Planned Demand Resource, the planned deactivation or retirement of any Generation Capacity Resource or Demand Resource, and the status of commitments for each sale or purchase of capacity included in such plan.
- 2. The FRR Capacity Plan of each FRR Entity that commits that it will not sell surplus Capacity Resources as a Capacity Market Seller in any auction conducted under Attachment DD of the PJM Tariff, or to any direct or indirect purchaser that uses such resource as the basis of any Sell Offer in such auction, shall designate Capacity Resources in a megawatt quantity no less than the Forecast Pool Requirement for each applicable Delivery Year times the FRR Entity's allocated share of the Preliminary Zonal Peak Load Forecast for such Delivery

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Year, as determined in accordance with procedures set forth in the PJM Manuals. If the FRR Entity is not responsible for all load within a Zone, the Preliminary Forecast Peak Load for such entity shall be the FRR Entity's Obligation Peak Load last determined prior to the Base Residual Auction for such Delivery Year, times the Base FRR Scaling Factor. The FRR Capacity Plan of each FRR Entity that does not commit that it will not sell surplus Capacity Resources as set forth above shall designate Capacity Resources at least equal to the Threshold Quantity. To the extent the FRR Entity's allocated share of the Final Zonal Peak Load Forecast exceeds the FRR Entity's allocated share of the Preliminary Zonal Peak Load Forecast, such FRR Entity's FRR Capacity Plan shall be updated to designate additional Capacity Resources in an amount no less than the Forecast Pool Requirement times such increase; provided, however, any excess megawatts of Capacity Resources included in such FRR Entity's previously designated Threshold Quantity, if any, may be used to satisfy the capacity obligation for such increased load.

3. As to any FRR Entity, the Base Zonal FRR Scaling Factor for each Zone in which it serves load for a Delivery Year shall equal ZPLDY/ZWNSP, where:

<u>ZPLDY = Preliminary Zonal Peak Load Forecast for such Zone for such Delivery Year; and</u>

<u>ZWNSP – Zonal Weather-Normalized Summer Peak Load for such Zone for the summer concluding four years prior to the commencement of such Delivery Year.</u>

- 4. Capacity Resources identified and committed in an FRR Capacity Plan shall meet all requirements under this Agreement and the PJM Operating Agreement applicable to Capacity Resources, including, as applicable, requirements and milestones for Planned Generation Capacity Resources and Planned Demand Resources. A Capacity Resource submitted in an FRR Capacity Plan must be on a unit-specific basis, and may not include "slice of system" or similar agreements that are not unit specific. An FRR Capacity Plan may include bilateral transactions that commit capacity for less than a full Delivery Year only if the resources included in such plan in the aggregate satisfy all obligations for all Delivery Years. All demand response, load management or similar programs on which such FRR Entity intends to rely for a Delivery Year must be included in the FRR Capacity Plan submitted three years in advance of such Delivery Year and must satisfy all requirements applicable to Demand Resources, including, without limitation, those set forth in Schedule 6 to this Agreement; provided, however, that previously uncommitted Unforced Capacity from such programs may be used to satisfy any increased capacity obligation for such FRR Entity resulting from a Final Zonal Peak Load Forecast applicable to such FRR Entity.
- 5. For each LDA for which the Office of the Interconnection has established a separate Variable Resource Requirement Curve for any Delivery Year addressed by such FRR Capacity Plan, the plan must include a minimum percentage of Capacity Resources for such Delivery Year located within such LDA. Such minimum percentage ("Percentage Internal Resources Required") will be calculated as the LDA Reliability Requirement less the CETL for the Delivery Year, as determined by the RTEP process as set forth in the PJM Manuals. Such requirement shall be expressed as a percentage of the Unforced Capacity Obligation based on the Preliminary Zonal Peak Load Forecast multiplied by the Forecast Pool Requirement.

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- 6. An FRR Entity may reduce such minimum percentage as to any LDA to the extent the FRR Entity commits to a transmission upgrade that increases the capacity emergency transfer limit for such LDA. Any such transmission upgrade shall adhere to all requirements for a Qualified Transmission Upgrade as set forth in Attachment DD to the PJM Tariff. The increase in CETL used in the FRR Capacity Plan shall be that approved by PJM prior to inclusion of any such upgrade in an FRR Capacity Plan. The FRR Entity shall designate specific additional Capacity Resources located in the LDA from which the CETL was increased, to the extent of such increase.
- 7. The Office of the Interconnection will review the adequacy of all submittals hereunder both as to timing and content. A Party that seeks to elect the FRR Alternative that submits an FRR Capacity Plan which, upon review by the Office of the Interconnection, is determined not to satisfy such Party's capacity obligations hereunder, shall not be permitted to elect the FRR Alternative. If a previously approved FRR Entity submits an FRR Capacity Plan that, upon review by the Office of the Interconnection, is determined not to satisfy such Party's capacity obligations hereunder, the Office of the Interconnection shall notify the FRR Entity, in writing, of the insufficiency within five (5) business days of the submittal of the FRR Capacity Plan. If the FRR Entity does not cure such insufficiency within five (5) business days after receiving such notice of insufficiency, then such FRR Entity shall be assessed an FRR Commitment Insufficiency Charge, in an amount equal to two times the Cost of New Entry for the relevant location, in \$/MW-day, times the shortfall of Capacity Resources below the FRR Entity's capacity obligation (including any Threshold Quantity requirement) in such FRR Capacity Plan, for the remaining term of such plan.
- 8. In a state regulatory jurisdiction that has implemented retail choice, the FRR Entity must include in its FRR Capacity Plan all load, including expected load growth, in the FRR Service Area, notwithstanding the loss of any such load to or among alternative retail LSEs. In the case of load reflected in the FRR Capacity Plan that switches to an alternative retail LSE, where the state regulatory jurisdiction requires switching customers or the LSE to compensate the FRR Entity for its FRR capacity obligations, such state compensation mechanism will prevail. In the absence of a state compensation mechanism, the applicable alternative retail LSE shall compensate the FRR Entity at the capacity price in the unconstrained portions of the PJM Region, as determined in accordance with Attachment DD to the PJM Tariff, provided that the FRR Entity may, at any time, make a filing with FERC under Sections 205 of the Federal Power Act proposing to change the basis for compensation to a method based on the FRR Entity's cost or such other basis shown to be just and reasonable, and a retail LSE may at any time exercise its rights under Section 206 of the FPA.
- 9. Notwithstanding the foregoing, in lieu of providing the compensation described above, such alternative retail LSE may, for any Delivery Year subsequent to those addressed in the FRR Entity's then-current FRR Capacity Plan, provide to the FRR Entity Capacity Resources sufficient to meet the capacity obligation described in paragraph D.2 for the switched load. Such Capacity Resources shall meet all requirements applicable to Capacity Resources pursuant to this Agreement and the PJM Operating Agreement, all requirements applicable to resources committed to an FRR Capacity Plan under this Agreement, and shall be committed to service to the switched load under the FRR Capacity Plan of such FRR Entity. The alternative retail LSE shall provide the FRR Entity all information needed to fulfill these requirements and permit the

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resource to be included in the FRR Capacity Plan. The alternative retail LSE, rather than the FRR Entity, shall be responsible for any performance charges or compliance penalties related to the performance of the resources committed by such LSE to the switched load. For any Delivery Year, or portion thereof, the foregoing obligations apply to the alternative retail LSE serving the load during such time period. PJM shall manage the transfer accounting associated with such compensation and shall administer the collection and payment of amounts pursuant to the compensation mechanism.

Such load shall remain under the FRR Capacity Plan until the effective date of any termination of the FRR Alternative and, for such period, shall not be subject to Locational Reliability Charges under Section 7.2 of this Agreement.

# E. Conditions on Purchases and Sales of Capacity Resources by FRR Entities

- I. An FRR Entity may not include in its FRR Capacity Plan for any Delivery Year any Capacity Resource that has cleared in any auction under Attachment DD of the PJM Tariff for such Delivery Year. Nothing herein shall preclude an FRR Entity from including in its FRR Capacity Plan any Capacity Resource that has not cleared such an auction for such Delivery Year. Furthermore, nothing herein shall preclude an FRR Entity from including in its FRR Capacity Plan a Capacity Resource obtained from a different FRR Entity, provided, however, that each FRR Entity shall be individually responsible for meeting its capacity obligations hereunder, and provided further that the same megawatts of Unforced Capacity shall not be committed to more than one FRR Capacity Plan for any given Delivery Year.
- 2. An FRR Entity that designates Capacity Resources in its FRR Capacity Plan for a Delivery Year based on the Threshold Quantity may offer to sell Capacity Resources in excess of that needed for the Threshold Quantity in any auction conducted under Attachment DD of the PJM Tariff for such Delivery Year, but may not offer to sell Capacity Resources in the auctions for any such Delivery Year in excess of an amount equal to the lesser of (a) 25% times the Unforced Capacity equivalent of the Installed Reserve Margin for such Delivery Year multiplied by the Preliminary Forecast Peak Load for which such FRR Entity is responsible under its FRR Capacity Plan for such Delivery Year, or (b) 1300 MW.
- 3. An FRR Entity that designates Capacity Resources in its FRR Capacity Plan for a Delivery Year based on the Threshold Quantity may not offer to sell such resources in any Reliability Pricing Model auction, but, but may use such resources to meet any increased capacity obligation resulting from unanticipated growth of the loads in its FRR Capacity Plan, or may sell such resources to serve loads located outside the PJM Region, or to another FRR Entity, subject to subsection F.1 above.
- 4. A Party that has selected the FRR Alternative for only part of its load in the PJM Region pursuant to Section B.2 of this Schedule that designates Capacity Resources as Self-Supply in a Reliability Pricing Model Auction to meet such Party's expected Daily Unforced Capacity Obligation under Schedule 8 shall not be required, solely as a result of such designation, to identify Capacity Resources in its FRR Capacity Plan based on the Threshold Quantity; provided, however, that such Party may not so designate Capacity Resources in an amount in excess of the lesser of (a) 25% times such Party's total expected Unforced Capacity obligation (under both Schedule 8 and Schedule 8.1), or (b) 200 MW. A Party that wishes to

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avoid the foregoing limitation must identify Capacity Resources in its FRR Capacity Plan based on the Threshold Quantity.

# F. FRR Daily Unforced Capacity Obligations and Deficiency Charges

1. For each billing month during a Delivery Year, the Daily Unforced Capacity Obligation of an FRR Entity shall be determined on a daily basis for each Zone as follows:

Daily Unforced Capacity Obligation = OPL \* Final Zonal FRR Scaling Factor \* FPR

#### where:

OPI. Obligation Peak Load, defined as the daily summation of the weather-adjusted coincident summer peak, last preceding the Delivery Year, of the end-users in such Zone (net of operating Behind The Meter Generation, but not to be less than zero) for which such Party was responsible on that billing day, as determined in accordance with the procedures set forth in the PJM Manuals

Final Zonal FRR Scaling Factor = FZPLDY/FZWNSP;

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

<u>FZWNSP - Zonal Weather-Normalized Peak Load for the summer concluding</u> prior to the commencement of such Delivery Year.

- 2. An FRR Entity shall be assessed an FRR Capacity Deficiency Charge in each Zone addressed in such entity's FRR Capacity Plan for each day during a Delivery Year that it fails to satisfy its Daily Unforced Capacity Obligation in each Zone. Such FRR Capacity Deficiency Charge shall be in an amount equal to the deficiency below such FRR Entity's Daily Unforced Capacity Obligation for such Zone times twice the Cost of New Entry applicable to such Zone.
- 3. If an FRR Entity acquires load that is not included in the Preliminary Zonal Peak Load Forecast such acquired load shall be treated in the same manner as provided in Sections H.1 and H.2 of this Schedule.
- 4. The shortages in meeting the minimum requirement within the constrained zones and the shortage in meeting the total obligation are first calculated. The shortage in the unconstrained area is calculated as the total shortage less shortages in constrained zones and excesses in constrained zones (the shortage is zero if this is a negative number). The Capacity Deficiency Charge is charged to the shortage in each zone and in the unconstrained area separately. This procedure is used to allow the use of capacity excesses from constrained zones to reduce shortage in the unconstrained area and to disallow the use of capacity excess from unconstrained area to reduce shortage in constrained zones.

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# G. Capacity Resource Performance

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 sections 7, 8, 9, 10, 11, and 13 of Attachment DD to the PJM Tariff; provided, however, the Daily Deficiency Rate under sections 7, 8, 9, and 13 thereof, and the charge rates under section 10 thereof, shall be the net Cost of New Entry. 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 Sections 7 and 10 of Attachment DD to the PJM Tariff. 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.

## H. Annexation of service territory by Public Power Entity

- In the event a Public Power Entity that is an FRR Entity annexes service territory to include new customers on sites where no load had previously existed, then the incremental load on such a site shall be treated as unanticipated load growth, and such FRR Entity shall be required to commit sufficient resources to cover such obligation in the relevant Delivery Year.
- 2, In the event a Public Power Entity that is an FRR Entity annexes service territory to include load from a Party that has not elected the FRR Alternative, then:
  - a. For any Delivery Year for which a Base Residual Auction already has been conducted, such acquiring FRR Entity shall meet its obligations for the incremental load by paying PJM for incremental obligations (including any additional demand curve obligation) at the Capacity Resource Clearing Price for the relevant location. Any such revenues shall be used to pay Capacity Resources that cleared in the BRA for that LDA.
  - b. For any Delivery Year for which a Base Residual Auction has not been conducted, such acquiring FRR Entity shall include such incremental load in its FRR Capacity Plan.
- 3. Annexation whereby a Party that has not elected the FRR Alternative acquires load from an FRR entity:
  - been conducted, PJM would consider shifted load as unanticipated load growth for purposes of determining whether to hold a Second Incremental Auction. If a Second Incremental Auction is held, FRR entity would have a must offer requirement for sufficient capacity to meet the load obligation of such shifted load. If no Second Incremental Auction is conducted, the FRR Entity may sell the associated quantity of capacity into an RPM Auction or bilaterally.

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b. For any Delivery Year for which a Base Residual Auction has not been conducted, the FRR Entity that lost such load would no longer include such load in its FRR Capacity Plan, and PJM would include such shifted load in future BRAs.

# I. Savings Clause for State-Wide FRR Program

Nothing herein shall obligate or preclude a state, acting either by law or through a regulatory body acting within its authority, from designating the Load Serving Entity or Load Serving Entities that shall be responsible for the capacity obligation for all load in one or more FRR Service Areas within such state according to the terms and conditions of that certain Settlement Agreement dated September 29, 2006 in FERC Docket Nos. ER05-1410 and El05-148, the PJM Tariff and this Agreement. Each LSE subject to such state action shall become a Party to this Agreement and shall be deemed to have elected the FRR Alternative.

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#### **SCHEDULE 9**

# PROCEDURES FOR ESTABLISHING THE CAPABILITY OF GENERATION CAPACITY RESOURCES

- A. Such rules and procedures as may be required to determine and demonstrate the capability of Generation Capacity Resources for the purposes of meeting a Load Serving Entity's obligations under the Agreement shall be developed by the Office of Interconnection and maintained in the PJM Manuals.
- B. The rules and procedures for determining and demonstrating the capability of generating units to serve load in the PJM Region shall be consistent with achieving uniformity for planning, operating, accounting and reporting purposes.
- C. The rules and procedures shall recognize the difference in types of generating units and the relative ability of units to maintain output at stated capability over a specified period of time. Factors affecting such ability include, but are not limited to, fuel availability, stream flow for hydro units, reservoir storage for hydro and pumped storage units, mechanical limitations, and system operating policies.

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#### SCHEDULE 9.1

# RESOURCE OPERATIONAL RELIABILITY REQUIREMENTS

The Final Zonal Capacity Price determined pursuant to Attachment Y to the PJM Tariff shall recognize and quantify the reliability value of certain operating characteristics of Generation Capacity Resources. To ensure that Generation Capacity Resources in the PJM Region have sufficient operational flexibility to maintain reliability, and that such reliability value is properly recognized and quantified, the Office of the Interconnection shall: (a) establish Resource Operational Reliability Requirements for each Planning Period; and (b) certify Generation Capacity Resources that meet such requirements.

The Office of Interconnection shall establish minimum Resource Operational Reliability Requirements for the PJM Region, in accordance with the PJM Manuals, and consistent with NERC and Applicable Regional Reliability Council standards and Good Utility Practice, for Load Following Resources and Thirty-Minute Start Resources.

The Load-Following Requirement shall quantify the minimum amount of megawatts that must be committed for the Delivery Year from Load-Following Resources that are capable of either dispatching within a given range at or above a minimum ramp rate, or cycling on- and off-line to respond to changes in system load as they occur. The Thirty-Minute-Start Requirement shall quantify the minimum amount of megawatts required from Thirty-Minute-Start Resources that must be committed for the Delivery Year. The Load-Following and Thirty-Minute-Start Requirements are PJM Region-wide requirements.

The Load Following Requirement shall be equal to the Weather Normalized Summer Peak forecast times the load-following factor as specified by the PJM Manuals, times the Forecast Pool Requirement. The Thirty-Minute-Start Requirement shall be defined as a percentage of the weather normalized forecast summer peak load for the Delivery Year, times one minus the average EFORd for the PJM Region, as specified in the PJM Manuals.

In accordance with procedures set forth in the PJM Manuals, the Office of the Interconnection shall certify Generation Capacity Resources electrically located in the PJM Region (a) having either a flexible start capability or a dispatchable capability that are qualified to contribute towards the Load Following Requirement; and (b) having a thirty (30) minutes or less start time capability that are qualified to contribute towards the Thirty-Minute Start Requirement. To qualify as a flexible start resource, a unit must be capable of at least three starts per day, and the combination of its minimum down time and minimum run time must be no more than eight hours. To qualify as a dispatchable resource, a unit must have a range between its minimum and maximum output and must be able to ramp at an average rate of at least 1 MW/minute over the unit's dispatchable range. To qualify as a thirty minute start resource, a resource must have generating capability over and above the capability needed to meet day to day peak demand that can be converted fully into energy within thirty (30) minutes of a request from the Office of the Interconnection.

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A unit that is committed in a Base Residual or Incremental Auction as a Thirty-Minute-Start Resource or Load-Following Resource shall be required to specify parameters in its offer data to the PJM Interchange Energy Market consistent with such status, as specified in the PJM Manuals, and shall be subject to monitoring and/or performance tests to ensure compliance with such requirements. A unit that fails to either specify or meet such parameters shall be subject to deficiency charges as set forth in Attachment Y to the PJM Tariff.

#### **SCHEDULE 10**

# PROCEDURES FOR ESTABLISHING DELIVERABILITY OF GENERATION CAPACITY RESOURCES

Generation Capacity Resources must be deliverable, consistent with a loss of load expectation as specified by the Reliability Principles and Standards, to the total system load, including portion(s) of the system in the PJM Region that may have a capacity deficiency at any time. Deliverability shall be demonstrated by either obtaining or providing for Network Transmission Service or Firm Point-To-Point Transmission Service within the PJM Region such that each Generation Capacity Resource is either a Network Resource or a Point of Receipt, respectively. In addition, for Generation Capacity Resources located outside the metered boundaries of the PJM Region that are used to meet an Unforced Capacity Obligation, the capacity and energy of such Generation Capacity Resources must be delivered to the metered boundaries of the PJM Region through firm transmission service.

Certification of deliverability means that the physical capability of the transmission network has been tested by the Office of the Interconnection and found to provide that service consistent with the assessment of available transfer capability as set forth in the PJM Tariff and, for Generation Resources owned or contracted for by a Load Serving Entity, that the Load Serving Entity has obtained or provided for Network Transmission Service or Firm Point-to-Point Transmission Service to have capacity delivered on a firm basis under specified terms and conditions.

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#### SCHEDULE 10.1

# LOCATIONAL DELIVERABILITY AREAS AND REQUIREMENTS

The Final Zonal Capacity Price determined pursuant to Attachment Y to the PJM Tariff shallcapacity obligations imposed under this Agreement recognize and quantify the locational value of Capacity Resources. To ensure that such locational value is properly recognized and quantified, the Office of the Interconnection shall follow the procedures in this Schedule.

A. To recognize and quantify the locational value of capacity, the Unforced Capacity Obligation shall include Locational Deliverability Requirements. In accordance with Following the Transition Period, as such term is defined in Attachment Y DD to the Tariff, the Office of the Interconnection shall determine and post, three months prior to the Base Residual Auction for each Delivery Year, the Locational Deliverability Areas for the purposes of determining locational capacity obligations hereunder, but not necessarily for the purposes of the Regional Transmission Expansion Planning Protocol, shall consist of the following Zones (as defined in Schedule 15), combinations of such Zones, and portions of such Zones:

- o Dominion
- o PeneElec
- o ComEd
- o AEP
- o Dayton
- o Duquesnel
- APS
- o AE
- o BGE
- o DPL
- o PECO
- o PEPCO
- o PSEG
- o JCPL
- o MetEd
- o PPL
- Mid-Atlantic Area Council (MAAC) Region (consisting of all the zones listed below for Eastern MAAC, Western MAAC, and Southwestern MAAC)
- ComEd, AEP, Dayton, APS, and Duquesne
- o Eastern MAAC (PSE&G, JCP&L, PECO, AE, DPL & RE)
- Southwestern MAAC (PEPCO & BG&E)
- Western MAAC (PeneElec, MetEd, PPL)
- o PSEG northern region (north of Linden substation); and
- O DPI. southern region (south of Chesapeake and Delaware Canal

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applicable to such Delivery-Year. For purposes of evaluating the need for any changes to the foregoing list, Locational Deliverability Areas shall be those areas, identified by the load deliverability analyses conducted pursuant to the Regional Transmission Expansion Planning Protocol and the PJM Manuals that have a limited ability to import capacity due to physical limitations of the transmission system, voltage limitations or stability limitations. Such limits on import capability shall not reflect the effect of Qualifying Transmission Upgrades offered in the Base Residual Auction. for The Locational Deliverability Areas identified in Paragraph A above (as it may be amended from time to time) for a Delivery Year shall be modeled in the Base Residual Auction and any Incremental Auction conducted for such Delivery Year. If Tthe Office of the Interconnection includes a new Locational Deliverability Area in the Regional Transmission Expansion Planning Protocol, it shall make a filing with FERC to amend this Schedule to add a new Locational Deliverability Area (including a new aggregate LDA), if such new Locational Deliverability aArea is projected to have a capacity emergency transfer limit less than 1.05 times the capacity emergency transfer objective of such area, or if warranted by other reliability concerns consistent with the Reliability Principles and Standards. In addition, any Party may propose, and the Office of the Interconnection shall evaluate, consistent with the same CETO/CETO comparison or other reliability concerns, possible new Locational Deliverability Areas (including aggregate LDAs) for inclusion under the Regional Transmission Expansion Planning Protocol and for purposes of determining locational capacity obligations hereunder.

<u>C.</u> For each Locational Deliverability Area for which a separate VRR Curve was established for a Delivery Year, the Office of the Interconnection shall determine, pursuant to procedures set forth in the PJM Manuals, and the Percentage of Internal Capacity-Resources Requiredment, equal to the quantity, in megawatts, of Unforced Capacity that must bey committed during such Delivery Year from Capacity Resources physically located in such Locational Deliverability Area.

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## SCHEDULE 11

#### **DATA SUBMITTALS**

To perform the studies required to determine the Forecast Pool Requirement and Daily Unforced Capacity Obligations under this Agreement and to determine compliance with the obligations imposed by this Agreement, each Party and other owner of a Capacity Resource shall submit data to the Office of the Interconnection in conformance with the following minimum requirements:

- 1. All data submitted shall satisfy the requirements, as they may change from time to time, of any procedures adopted by the Members Committee.
- 2. Data shall be submitted in an electronic format, or as otherwise specified by the Markets and Reliability Committee and approved by the PJM Board.
- 3. Actual outage data for each month for Generator Forced Outages, Generator Maintenance Outages and Generator Planned Outages shall be submitted so that it is received by such date specified in the PJM Manuals.
- 4. On or before the date specified in the PJM Manuals, planned and maintenance outage data for all Generation Resources and load forecasts (including seasonal and average weekly peaks) shall be submitted.
- 5. On or before the date specified in the PJM Manuals, adjustments to forecasts shall be submitted.
- 6. On or before the date or schedule for updates specified in the PJM Manuals, revisions to capacity and load forecasts (including the plans for satisfying the Daily Unforced Capacity Obligation of the Party) shall be submitted.
- 7. Capacity plans or revisions to previously submitted capacity plans, required under Schedule 6.
- 8. As desired by a Party, revisions to monthly peak load forecasts may be submitted.

The Parties acknowledge that additional information required to determine the Forecast Pool Requirement is to be obtained by the Office of the Interconnection from Electric Distributors in accordance with the provisions of the Operating Agreement.

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#### **SCHEDULE 12**

## **DATA SUBMISSION CHARGES**

## A. Data Submission Charge

For each working day of delay in the submittal of information required to be submitted under this Agreement, a data submission charge of \$500 shall be imposed.

# B. <u>Distribution Of Data Submission Charge Receipts</u>

- 1. Each Party that has satisfied its obligations for data submittals pursuant to Schedule 11 during a Delivery Year, without incurring a data submission charge related to that obligation, shall share in any data submission charges paid by any other Party that has failed to satisfy said obligation during such Planning Period. Such shares shall be in proportion to the sum of the Unforced Capacity Obligations of each such Party entitled to share in the data submission charges for the most recent month.
- 2. In the event all of the Parties have incurred a data submission charge during a Delivery Year, those data submission charges shall be distributed as approved by the PJM Board.

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PJM Interconnection, L.L.C. Rate Schedule FERC No. 44

Original Sheet No. 55

#### SCHEDULE 13

## **EMERGENCY PROCEDURE CHARGES**

Following an Emergency, the compliance of each Party with the instructions of the Office of the Interconnection shall be evaluated as directed by the Markets and Reliability Committee. If, based on such evaluation, it is determined that a Party refused to comply with, or otherwise failed to employ its best efforts to comply with, the instructions of the Office of the Interconnection to implement PJM emergency procedures, that Party shall pay an emergency procedure charge, as set forth in Attachment DDY to the PJM Tariff. The revenue associated with Emergency Procedure Charges shall be allocated in accordance with Attachment Y-DD to the PJM Tariff.

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Original Sheet No. 56

#### **SCHEDULE 14**

# **DELEGATION TO THE OFFICE OF THE INTERCONNECTION**

The following responsibilities shall be delegated by the Parties to the Office of the Interconnection:

- 1. New Parties. With regard to the addition, withdrawal or removal of a Party:
  - (a) Receive and evaluate the information submitted by entities that plan to serve loads within the PJM Region, including entities whose participation in the Agreement will expand the boundaries of the PJM Region. Such evaluation shall be conducted in accordance with the requirements of the Agreement.
  - (b) Evaluate the effects of the withdrawal or removal of a Party from this Agreement.
- 2. Implementation of Reliability Assurance Agreement. With regard to the implementation of the provisions of this Agreement:
  - (a) Receive all required data and forecasts from the Parties and other owners of Capacity Resources;
  - (b) Perform all calculations and analyses necessary to determine the Forecast Pool Requirement and the obligations imposed under the Reliability Assurance Agreement, including periodic reviews of the capacity benefit margin for consistency with the Reliability Principles and Standards;
  - (c) Monitor the compliance of each Party with its obligations under the Agreement;
  - (d) Keep cost records, and bill and collect any costs or charges due from the Parties and distribute those charges in accordance with the terms of the Agreement;
  - (e) Assist with the development of rules and procedures for determining and demonstrating the capability of Capacity Resources;
  - (f) Establish the capability and deliverability of Generation Capacity Resources consistent with the requirements of the Reliability Assurance Agreement;
  - (g) Establish standards and procedures for Planned Demand Resources;
  - (h) Collect and maintain generator availability data;

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- (i) Perform any other forecasts, studies or analyses required to administer the Agreement;
- (j) Coordinate maintenance schedules for generation resources operated as part of the PJM Region;
- (k) Determine and declare that an Emergency exists or ceases to exist in all or any part of the PJM Region or announce that an Emergency exists or ceases to exist in a Control Area interconnected with the PJM Region;
- (1) Enter into agreements for (i) the transfer of energy in Emergencies in the PJM Region or in a Control Area interconnected with the PJM Region and (ii) mutual support in such Emergencies with other Control Areas interconnected with the PJM Region; and
- (m) Coordinate the curtailment or shedding of load, or other measures appropriate to alleviate an Emergency, to preserve reliability in accordance with FERC, NERC or Applicable Regional Reliability Council principles, guidelines, standards and requirements, and to ensure the operation of the PJM Region in accordance with Good Utility Practice.

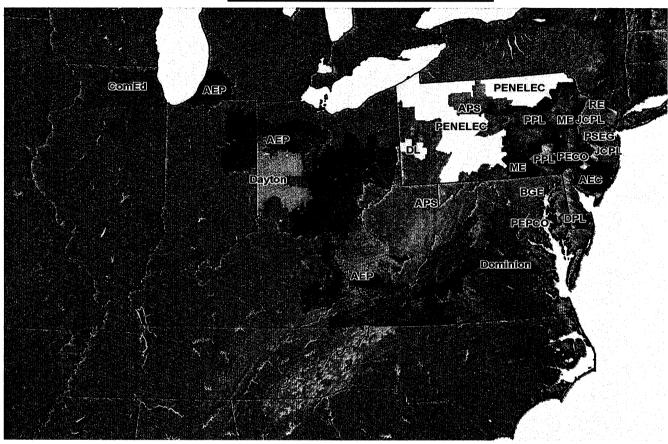
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Original Sheet No. 58

# **SCHEDULE 15**

# **ZONES WITHIN THE PJM REGION**



# **FULL NAME**

# **SHORT NAME**

Pennsylvania Electric CompanyPENELE	€Penelec
Allegheny Power	
PPL GroupElectric Utilities Corporation	
Metropolitan Edison Company	
Jersey Central Power and Light Company	
Public Service Electric and Gas Company	
Atlantic City Electric Company	
PECO Energy Company	
Baltimore Gas and Electric Company	
Delmarva Power and Light Company	
Potomac Electric Power Company	
Rockland Electric Company	
Commonwealth Edison Company	
AEP East Zone	
The Dayton Power and Light Company	Dayton
Virginia Electric and Power Company	Oominion
Duquesne Light Company	DL

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Original Sheet No. 59

#### **SCHEDULE 16**

# Non-Retail Behind the Meter Generation Maximum Generation Emergency Obligations

Maximum Generation Emergency Congations
1. A Non-Retail Behind The Meter Generation resource that has output that is netted from the Accounted-For Obligation of a Party pursuant to Schedule 7 of this Agreement shall be required to operate at its full output during the first ten times between November 1 and October 31 that Maximum Generation Emergency (as defined in section 1.3.13 of Schedule 1 of the Operating Agreement) conditions occur in the zone in which the Non-Retail Behind The Meter Generation resource is located.  2. The Party for which Non-Retail Behind The Meter Generation output is netted from its Accounted-For Obligation shall be required to report to PJM scheduled outages of the resource prior to the occurrence of such outage in accordance with the time requirements and procedures set forth in the PJM Manuals. Such Party also shall report to PJM the output of the Non-Retail Behind The Meter Generation resource during each Maximum Generation Emergency condition in which the resource is required to operate in accordance with the procedures set forth in PJM Manuals.  3. Except for failures to operate due to scheduled outages during the months of
3. Except for failures to operate due to scheduled outages during the months of October through May, for each instance a Non-Retail Behind The Meter Generation resource
fails to operate, in whole or in part, as required in paragraph 1 above, the amount of operating Non-Retail Behind The Meter Generation from such resource that is eligible for netting will be reduced pursuant to the following formula:
Adjusted  ENRBTMG – ENRBTMG – Σ(10% of the Not Run NRBTMG)
ENRBTMG equals the operating Non-Retail Behind The Meter Generation eligible for netting as determined pursuant to Schedule 7 of this Agreement.
Not Run NRBTMG is the amount in megawatts that the Non-Retail Behind The Meter Generation resource failed to produce during an occurrence of Maximum Generation Emergency conditions in which the resource was required to operate.
$\Sigma(10\% \text{ of the Not Run NRBTMG})$ is the summation of 10% megawatt reductions associated with the events of non-performance.

The Adjusted ENRBTMG shall not be less than zero and shall be applicable for the succeeding Planning Period.

4. If a Non-Retail Behind The Meter Generation resource that is required to operate during a Maximum Generation Emergency condition is an Energy Resource and injects energy into the Transmission System during the Maximum Generation Emergency condition, the Network Customer that owns the resource shall be compensated for such injected energy in accordance with the PJM market rules.

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#### SCHEDULE 17

# PARTIES TO THE RELIABILITY ASSURANCE AGREEMENT

This Schedule sets forth the Parties to the Agreement:

Harrison REA Inc.

City of New Martinsville

City of Philippi

Letterkenny Industrial Development Authority-PA

Old Dominion Electric Cooperative

Town of Front Royal

Hagerstown

Borough of Chambersburg

Town of Williamsport

Thurmont

Allegheny Electric Coopertive, Inc.

Allegheny Power

AES New Energy, Inc.

BP Energy Co.

Commonwealth Edison Company

Commonwealth Edison Company of Indiana

Dayton Power & Light Company (The)

American Municipal Power-Ohio, Inc.

American Electric Power Service Corporation on behalf of its affiliates:

Appalachian Power Company

Columbus Southern Power Company

Indiana Michigan Power Company

Kentucky Power Company

Kingsport Power Company

Ohio Power Company

Wheeling Power Company

Allegheny Energy Supply Company, L.L.C.

Blue Ridge Power Agency, Inc.

Central Virginia Electric Cooperative

City of Dowogiac

Hoosier Energy REC, Inc.

Indiana Municipal Power Agency

Ormet Primary Aluminum Corporation

City of Sturgis

Wabash Valley Power Association, Inc.

**Duquesne Light Company** 

Virginia Electric and Power Company

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ACN Energy, Inc.

AES Power Direct, L.L.C.

Agway Energy Services-PA Inc.

Allegheny Energy Supply Company, L.L.C.

AllEnergy Marketing Company, L.L.C.

Amerada Hess Corporation

American Cooperative Services, Inc.

American Energy Solutions, Inc.

Atlantic City Electric Company

Baltimore Gas and Electric Company

BGE Home Products & Services, Inc.

**BP Energy Company** 

Central Hudson Enterprise Corporation

CMS Marketing Services and Trading Company

Columbia Energy Power Marketing Corporation

Commodore Gas and Electric, Inc.

Commonwealth Energy Corporation dba electricAMERICA

Con Edison Energy, Inc.

Conectiv Energy Supply, Inc.

Constellation Energy Source, Inc.

Consolidated Edison Solutions, Inc.

Delmarva Power & Light Company

Dominion Retail, Inc.

DTE Edison America, Inc.

DTE Energy Market, Inc.

DTE Energy Trading, Inc.

Duke Energy Trading and Marketing, L.L.C.

DukeSolutions, Inc.

Easten Power Distribution Company

ECONnergy Energy Company, Inc.

ECONnergy PA, Inc.

Edison Mission Marketing & Trading, Inc.

Energy America, L.L.C.

Energy East Solutions, Inc.

Enron Energy Services, Inc.

Enron Power Marketing, Inc.

**Exelon Energy Company** 

FirstEnergy Corporation

FirstEnergy Trading and Power Marketing Incorporated

FirstEnergy Services Corp.

GPU Advanced Resources

GreenMountain.com Company

HIS Power & Water, L.L.C.

It's Electric & Gas, L.L.C.

Jersey Central Power & Light Company

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Keyspan Energy Services, Inc.

Metropolitan Edison Company

MIECO, Inc.

NewEnergy, Inc.

Niagara Mohawk Energy Marketing, Inc.

NJR Natural Energy Company

NRG New Jersey Energy Sales, L.L.C.

NYSEG Solutions, Inc.

Old Dominion Electric Cooperative

PECO Energy Company

Penn Power Energy, Inc.

Pennsylvania Electric Company

Pepco Energy Services, Inc.

Potomac Electric Power Company

PPL Electric Utilities Corporation

PPL EnergyPlus, L.L.C.

PSEG Energy Resources & Trade, L.L.C

PSEG Energy Technologies, Inc.

Public Service Electric and Gas Company

Reliant Energy Retail, Inc.

**Rhoads Energy Corporation** 

Select Energy, Inc.

Sempra Energy Solutions

Sempra Energy Trading Corp.

Shell Energy Services Company, L.L.C.

Southern Company Retail Energy Marketing L.P.

South Jersey Energy Company

South Jersey Energy Solutions, L.L.C.

Smart Energy.com, Inc.

Statoil Energy Services, Inc.

Strategic Energy Ltd.

The Mack Services Group

The New Power Company

Total Gas & Electric, Inc.

Total Gas & Electricity (PA), Inc.

TXU Energy Trading Company d/b/a TXU Energy Services

UGI Energy Services, Inc.

UGI Utilities, Inc. - Electric Division

Utilimax.com, Inc.

Utility.com

Washington Gas Energy Services, Inc.

Williams Energy Market & Trading Company

Woodruff Energy

Worley & Obetz, Inc. d/b/a Advanced Energy

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PJM Interconnection, L.L.C. Docket Nos. EL05-148 and ER05-1410 September 29, 2006

Attachment C
PJM Tariff Revisions
(Clean Version)

# **Tariff Revisions**

**Clean Version** 

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PJM Interconnection, L.L.C. FERC Electric Tariff
Sixth Revised Volume No. 1

Fifth Revised Sheet No. 33 Superseding Second Revised Second Revised Sheet No. 33

## I. COMMON SERVICE PROVISIONS

#### 1 Definitions

- 1.0A Affected System: An electric system other than the Transmission Provider's Transmission System that may be affected by a proposed interconnection.
- 1.0B Affected System Operator: An entity that operates an Affected System or, if the Affected System is under the operational control of an independent system operator or a regional transmission organization, such independent entity.
- 1.1 Ancillary Services: Those services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of the Transmission Provider's Transmission System in accordance with Good Utility Practice.
- 1.2 Annual Transmission Costs: The total annual cost of the Transmission System for purposes of Network Integration Transmission Service shall be the amount specified in Attachment H for each Zone until amended by the applicable Transmission Owner or modified by the Commission.
- 1.2A Applicable Regional Reliability Council: The reliability council for the region in which a Network Customer, Transmission Customer, Interconnection Customer, or Transmission Owner operates.
- 1.3 Application: A request by an Eligible Customer for transmission service pursuant to the provisions of the Tariff.
- 1.3A Attachment Facilities: The facilities necessary to physically connect a Customer Facility to the Transmission System or interconnected distribution facilities.
- 1.3B Behind The Meter Generation: Behind The Meter Generation refers to a generation unit that delivers energy to load without using the Transmission System or any distribution facilities (unless the entity that owns or leases the distribution facilities has consented to such use of the distribution facilities and such consent has been demonstrated to the satisfaction of the Office of the Interconnection); provided, however, that Behind The Meter Generation does not include (i) at any time, any portion of such generating unit's capacity that is designated as a Generation Capacity Resource; or (ii) in an hour, any portion of the output of such generating unit[s] that is sold to another entity for consumption at another electrical location or into the PJM Interchange Energy Market.

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PJM Interconnection, L.L.C. FERC Electric Tariff Sixth Revised Volume No. 1

Fourth Revised Sheet No. 33.01 Superseding First Revised Second Revised Sheet No. 33.01

- 1.3BB Black Start Service: Black Start Service is the capability of generating units to start without an outside electrical supply or the demonstrated ability of a generating unit with a high operating factor (subject to Transmission Provider concurrence) to automatically remain operating at reduced levels when disconnected from the grid.
- 1.3C Capacity Interconnection Rights: The rights to input generation as a Generation Capacity Resource into the Transmission System at the Point of Interconnection where the generating facilities connect to the Transmission System.
- 1.3D Capacity Resource: Shall have the meaning provided in the Reliability Assurance Agreement.
- 1.3E Capacity Transmission Injection Rights: The rights to schedule energy and capacity deliveries at a Point of Interconnection (as defined in Section 50.44) of a Merchant Transmission Facility with the Transmission System. Capacity Transmission Injection Rights may be awarded only to a Merchant D.C. Transmission Facility and/or Controllable A.C. Merchant Transmission Facilities that connects the Transmission System to another control area. Deliveries scheduled using Capacity Transmission Injection Rights have rights similar to those under Firm Point-to-Point Transmission Service or, if coupled with a generating unit external to the PJM

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Second Revised Sheet No. 96A Superseding Original Sheet No. 96A

- 36.1.1 Interconnection Services: Generation Interconnection Customers may request either of two forms of Interconnection Service, i.e., interconnection as a Capacity Resource or as an Energy Resource. Energy Resource status allows the generator to participate in the PJM Interchange Energy Market pursuant to the PJM Operating Agreement. Capacity Resource status allows the generator to participate in the PJM Interchange Energy Market to be utilized by load-serving entities in the PJM Region to meet capacity obligations imposed under the Reliability Assurance Agreement and/or to be designated as a Network Resource under Part III. Capacity Resources also may participate in Reliability Pricing Model Auctions and in Ancillary Services markets pursuant to the PJM Tariff or the Operating Agreement. Capacity Resource status is based on providing sufficient transmission capability to ensure deliverability of generator output to the aggregate PJM Network Load and to satisfy various contingency criteria established by the Applicable Regional Reliability Council in which the generator is located. Specific tests performed during the Generation Interconnection Feasibility Study and later System Impact Study will identify those upgrades required to satisfy the contingency criteria applicable at the generator's location.
- 36.1.2 No Applicability to Transmission Service: Nothing in this Part IV shall constitute a request for transmission service, or confer upon a Generation Interconnection Customer any right to receive transmission service, under Part II or Part III.
- 36.1.3 Acknowledgement of Generation Interconnection Request: The Transmission Provider shall acknowledge receipt of the Generation Interconnection Request (electronically when available to all parties, otherwise written) within five (5) business days after receipt of the request and shall attach a copy of the received Generation Interconnection Request to the acknowledgement.
- 36.1.4 Deficiencies in Interconnection Request: A Generation Interconnection Request will not be considered a valid request until all information required under Section 36.1 has been received by the Transmission Provider. If a Generation Interconnection Request fails to meet the requirements set forth in Section 36.1, the Transmission Provider shall so notify the Generation Interconnection Customer (electronically when available to all parties, otherwise written) within five (5) business days of receipt of the initial Generation Interconnection Request. Such notice shall explain that the Generation Interconnection Request does not constitute a valid request and the reasons for such failure to meet the applicable requirements. Generation Interconnection Customer shall provide the additional information that Transmission Provider's notice identifies as needed to constitute a valid request within ten (10) business days after receipt of such notice. Upon timely correction of the

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Third Revised Sheet No. 126 Superseding Second Revised Sheet No. 126

# **Subpart D - INTERCONNECTION RIGHTS**

# 45 Capacity Interconnection Rights

- 45.1 Purpose: Capacity Interconnection Rights shall entitle the holder to deliver the output of a Capacity Resource at the bus where the Capacity Resource interconnects to the Transmission System. The Transmission Provider shall plan the enhancement and expansion of the Transmission System in accordance with Schedule 6 of the Operating Agreement such that the holder of Capacity Interconnection Rights can integrate its Capacity Resources in a manner comparable to that in which each Transmission Owner integrates its Capacity Resources to serve its Native Load customers.
- 45.2 Receipt of Capacity Interconnection Rights: Generation accredited under the Reliability Assurance Agreement as a Capacity Resource prior to the original effective date of this Part IV shall have Capacity Interconnection Rights commensurate with the size in megawatts of the accredited generation. When a Generation Interconnection Customer's generation is accredited as a Capacity Resource, the Generation Interconnection Customer also shall receive Capacity Interconnection Rights commensurate with the size in megawatts of the generation accredited as a Capacity Resource. Pursuant to applicable terms of Schedule 10 of the Reliability Assurance Agreement, Reliability Assurance Agreement-South or of the Reliability Assurance Agreement-West, a Transmission Interconnection Customer may combine Incremental Deliverability Rights associated with Merchant Transmission Facilities with generation capacity that is not otherwise accredited as a Capacity Resource for the purposes of obtaining accreditation of such generation as a Capacity Resource and associated Capacity Interconnection Rights.

## 45.3 Loss of Capacity Interconnection Rights:

45.3.1 Operational Standards: To retain Capacity Interconnection Rights, the generating resource associated with the rights must operate or be capable of operating at the capacity level associated with the rights. Operational capability shall be established consistent with Schedule 9 of the Reliability Assurance Agreement, the Reliability Assurance Agreement-South or the Reliability Assurance Agreement-West and the PJM Manuals. Generating resources that meet these operational standards shall retain their Capacity Interconnection Rights regardless of whether they are available as a Capacity Resource or are making sales outside the PJM Region.

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PJM Interconnection, L.L.C. FERC Electric Tariff Sixth Revised Volume No. 1

Sixth Revised Sheet No. 218 Superseding First Revised Third Revised Sheet No. 218

#### 110 Permanent Capacity Resource Additions Of 20 MW Or Less

This section describes procedures related to the submission and processing of Generation Interconnection Requests related to new generation resources of 20 MW or less or the increase in capability, by 20 MW or less over any period of 24 consecutive months, of an existing generation resource, for which Capacity Interconnection Rights are to be granted. Such resources may participate in the PJM energy and capacity markets and may, therefore, be used by load serving entities to meet capacity obligations imposed under the PJM Reliability Assurance Agreement or the Reliability Assurance Agreement-South. These procedures apply to generation resources which, when connected to the system, are expected to remain connected to the system for the normal life span of such a generation resource. These procedures do not apply to resources that are specifically being connected to the system temporarily, with the expectation that they will later be removed.

## 110.1 Application

The Interconnection Customer desiring the interconnection of a new Generation Capacity Resource of 20 MW or less or the increase in capacity, by 20 MW or less, of an existing Generation Capacity Resource, must submit a completed Attachment N – Form of Generation Interconnection Feasibility Study Agreement. Attachment N of the PJM Tariff may be found on the PJM web site at www.pjm.com/geninter/geninter.html and must be submitted to Transmission Provider.

All requirements related to the submission, for a larger resource, of an Attachment N application must be satisfied for a capacity addition of 20 MW or less, except that the non-refundable \$10,000 deposit requirement is waived. In submitting the Attachment N application, the Interconnection Customer may strike out and initial all references to the non-refundable \$10,000 deposit. While the deposit requirement is waived, the Interconnection Customer is responsible for all costs associated with the processing of the request and the performance of the Feasibility Study related to the request and will be billed for such costs following the completion of the Feasibility Study.

Documentation of site control must be submitted, for small resource additions, with the completed Attachment N. Site control may be demonstrated through an exclusive option to purchase the property on which the generation project is to be developed, a property deed, or a range of tax or corporate documents that identify property ownership. Site control must either be in the name of the party submitting the generation interconnection request or documentation must be provided establishing the business relationship between the project developer and the party having site control.

All information required in the completed Attachment N related to the generating project site, point of interconnection, and generating unit size and configuration must be provided.

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Once it has been established that the requirements related to the submission of the Attachment N application have been met, the Generation Interconnection Request will be entered into the then current Interconnection Queue for analysis. The generation addition project will be identified in the Interconnection Queue on the PJM web site by the size of the capacity addition and by its proposed Point of Interconnection on the PJM system.

## 110.2 Feasibility Study

Feasibility Study analyses can generally be expedited by examining a limited contingency set that focuses on the impact of the small capacity addition on contingency limits in the vicinity of the Generation Capacity Resource. Linear analysis tools are used to evaluate the impact of a small capacity addition with respect to compliance with Applicable Regional Reliability Council contingency criteria. Generally, small capacity additions will have very limited and isolated impacts on system facilities. If criteria violations are observed, further AC testing is required.

Short circuit calculations are performed for small resource additions to ensure that circuit breaker capabilities are not exceeded.

Once the Feasibility Study is completed, a Feasibility Study report will be prepared and transmitted to the Interconnection Customer along with a System Impact Study Agreement. In order to remain in the Interconnection Queue, the Interconnection Customer must return the executed System Impact Study Agreement within 30 days, along with documents demonstrating that an initial air permit application has been filed, if required. The deposit associated with the System Impact Study Agreement shall be equal to the estimated cost of the System Impact Study, as specified by the Transmission Provider. Interconnection Customer is responsible for all actual costs associated with the performance of the System Impact Study related to the request and will be billed for such costs following the completion of the System Impact Study, as necessary. Transmission Provider shall retain the deposit until the settlement of the final invoice for the System Impact Study, provided however, in the event that the total actual cost of the System Impact Study does not exceed the total estimated cost of the System Impact Study then the deposit may be applied for payment of invoices for the cost of the study. In some cases, where no network impacts are identified and there are no other projects in the vicinity of the small resource addition, the System Impact Study may not be required and the project will proceed directly to the Facilities Study.

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Fourth Revised Sheet No. 218B Superseding Third Revised Sheet No. 218B

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# 110.3 System Impact Study

As with the Feasibility Study, expedited analysis procedures will be utilized, where appropriate, in the course of the System Impact Study.

Load deliverability will only be evaluated for sub-areas where margins are known to be limited. In most cases, the addition of small Generation Capacity Resources will improve local deliverability margins. However, if sub-area margins are known to be limited, the impact of the new resource will be evaluated based on its impact on the contingencies limiting emergency imports to the sub-area.

Generation deliverability is tested using linear analysis tools. In most cases, small capacity additions will have no impact on generator deliverability in an area. If violations are observed, more detailed testing using AC tools is required.

Stability analysis is generally not performed for small capacity additions. If the capacity of an existing generating resource is increased by 20 MW or less, stability will be evaluated for critical contingencies only if existing stability margins are small. New Generation Capacity Resources of 20 MW or less will only be evaluated if they are connected at a location where stability margins associated with existing resources are small.

Short circuit calculations are performed during the System Impact Study for small resource additions, taking into consideration all elements of the regional plan, to ensure that circuit breaker capabilities are not exceeded.

Once the System Impact Study is completed, a System Impact Study report will be prepared and transmitted to the Interconnection Customer along with a Facilities Study Agreement. In order to remain in the Interconnection Queue, the Interconnection Customer must return the executed Facilities Study Agreement within 30 days, along with a deposit in the amount of the estimated cost of the Facilities Study. The Interconnection Customer is responsible for all actual costs associated with the performance of the Facilities Study related to the request and will be billed for such costs following the completion of the Facilities Study. If no transmission system facilities are required, the Facilities Study may not be required and the project will proceed directly to the execution of an Interconnection Service Agreement.

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PJM Interconnection, L.L.C. FERC Electric Tariff Sixth Revised Volume No. 1

Fourth Revised Sheet No. 218C Superseding Third Revised Sheet No. 218C

### 110.4 Facilities Study

As with larger generation projects, transmission facilities design for any required Attachment Facilities, Local Upgrades and/or Network Upgrades will be performed through the execution of a Facilities Study Agreement between the Interconnection Customer and Transmission Provider. Transmission Provider may contract with consultants, including the Interconnected Transmission Owners, or contractors acting on their behalf, to perform the bulk of the activities required under the Facilities Study Agreement. In some cases, the Interconnection Customer and Transmission Provider may reach agreement allowing the Interconnection Customer to separately arrange for the design of some of the required transmission facilities. In such cases, facilities design will be reviewed, under the Facilities Study Agreement, by the Interconnected Transmission Owner.

Facilities design for small capacity additions will be expedited to the extent possible. In most cases, few or no Network Upgrades will be required for small capacity additions. Attachment Facilities, for some small capacity additions, may, in part, be elements of a "turn key" installation. In such instances, the design of "turn key" attachments will be reviewed by the Interconnected Transmission Owners or their contractors.

### 110.5 Interconnection Service Agreement

As with larger generation projects, an Interconnection Service Agreement must be executed and filed with the FERC. The Interconnection Service Agreement identifies the obligations, on the part of the Interconnection Customer, to pay for transmission facilities required to facilitate the interconnection and the Capacity Interconnection Rights which are awarded to the Generation Capacity Resource.

In general, the execution of an Interconnection Service Agreement is no different for capacity additions of 20 MW or less than for larger Generation Capacity Resources. However, in instances where an increase of 20 MW or less to an existing Generation Capacity Resource can be put in service immediately, a modified Interconnection Service Agreement may be executed. If such an increase is expedited through the System Impact Study phase, ahead of larger projects already in the Interconnection Queue, an Interconnection Service Agreement will be executed granting interim Capacity Interconnection Rights. These interim rights will allow the capacity increase to be implemented and the resource to participate in the capacity market until studies have been completed for earlier queued resources and all related obligations have been defined. At such time, the interim rights awarded the smaller capacity addition will become dependent on the construction of any required transmission facilities and the satisfaction of any financial obligations for those facilities. If, once those obligations are defined, the smaller capacity addition desires to retain the interim Capacity Interconnection Rights, a new Interconnection Service Agreement will be executed.

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If a new Generation Capacity Resource of 20 MW or less can be quickly connected to the system, interim Capacity Interconnection Rights can be awarded, as above, through the execution of a modified Interconnection Service Agreement.

### 110.6 Other Requirements

Requirements and application procedures related to PJM membership are specified in the PJM Manuals. Additionally, the PJM Manuals detail a range of operational requirements for generation owners related to, among other things, the need for control center facilities and modeling in the PJM Energy Management System and unit commitment tools.

## 111 Permanent Energy Resource Additions Of 20 MW Or Less But Greater Than 2MW

This section describes procedures related to the submission and processing of requests related to the interconnection of new generation resources of 20 MW or less but greater than 2 MW or the increase in capability of 20 MW or less but greater than 2 MW of an existing generation resource, for which Capacity Interconnection Rights will not be granted. Such resources may participate in the PJM energy markets, but not in the PJM capacity markets. They may, therefore, not be used by load serving entities to meet capacity obligations imposed under the PJM Reliability Assurance Agreement or the Reliability Assurance Agreement-South. These procedures apply to generation resources which, when connected to the system, are expected to remain connected to the system for the normal life span of such a generation resource. These procedures do not apply to resources that are specifically being connected to the system temporarily, with the expectation that they will later be removed.

## 111.1 Application

The Interconnection Customer desiring the interconnection of a new Energy Resource of 20 MW or less but greater than 2 MW or the increase in capability, by 20 MW or less but greater than 2 MW of an existing resource, must submit a completed Attachment N – Form of Generation Interconnection Feasibility Study Agreement. Attachment N of the PJM Tariff may be found on the PJM web site at www.pjm.com/geninter/geninter.html and must be submitted to Transmission Provider.

All requirements related to the submission, for a larger resource, of an Attachment N application must be satisfied for a capability addition of 20 MW or less but greater than 2 MW, except that the non-refundable deposit requirement is \$1,000, rather than \$10,000. The Interconnection Customer is responsible for all actual costs associated with the processing of the request and the performance of the Feasibility Study related to the request and will be billed for such costs following the completion of the Feasibility Study.

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Once the Feasibility Study is completed, a Feasibility Study report will be prepared and transmitted to the Interconnection Customer along with a System Impact Study Agreement. In order to remain in the Interconnection Queue, the Interconnection Customer must return the executed System Impact Study Agreement within 30 days, along with documents demonstrating that an initial air permit application has been filed, if required. The deposit associated with the System Impact Study Agreement shall be equal to the estimated cost of the System Impact Study, as specified by the Transmission Provider. Interconnection Customer is responsible for all actual costs associated with the performance of the System Impact Study related to the request and will be billed for such costs following the completion of the System Impact Study. Transmission Provider shall retain the deposit until the settlement of the final invoice for the System Impact Study, provided however, in the event that the total actual cost of the System Impact Study does not exceed the total estimated cost of the System Impact Study then the deposit may be applied for payment of invoices for the cost of the study. In some cases, where no network impacts are identified and there are no other projects in the vicinity of the small resource addition, the System Impact Study may not be required and the project will proceed directly to the Facilities Study.

### 111.3 System Impact Study

As with the Feasibility Study, expedited analysis procedures will be utilized, where appropriate, in the course of the System Impact Study.

Load deliverability and generation deliverability tests are not performed for Energy Resources.

Stability analysis is generally not performed for small capacity additions. If the capacity of an existing generating resource is increased by 20 MW or less, stability will be evaluated for critical contingencies only if existing stability margins are small. New Generation Capacity Resources of 20 MW or less will only be evaluated if they are connected at a location where stability margins associated with existing resources are small.

Short circuit calculations are performed during the System Impact Study for small resource additions, taking into consideration all elements of the regional plan, to ensure that circuit breaker capabilities are not exceeded.

Once the System Impact Study is completed, a System Impact Study report will be prepared and transmitted to the Interconnection Customer along with a Facilities Study Agreement. In order to remain in the interconnection queue, the Interconnection Customer must return the executed Facilities Study Agreement within 30 days, along with a deposit in the amount of the estimated cost of the Facilities Study. The Interconnection Customer is responsible for all actual costs associated with the performance of the Facilities Study related to the request and will be billed for such costs following the completion of the Facilities Study. If no transmission system facilities are required, the Facilities Study may not be required and the project will proceed directly to the execution of an Interconnection Service Agreement.

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Total Generation Owner Monthly Revenue Requirement is the sum of the Zonal Generation Owner Monthly Revenue Requirements for all Zones in the PJM Region.

Allocation Factor is the monthly transmission use of each Network Customer or Transmission Customer per Zone or Non-Zone, as applicable, on a megawatt basis divided by the total transmission use in the Zone or in the PJM Region, as applicable, on a megawatt basis.

For Network Customers, monthly transmission use on a megawatt basis is the sum of a Network Customer's daily values of DCPZ or DCPNZ (as those terms are defined in Section 34.1) as applicable, for all days of the month.

For Transmission Customers, monthly transmission use on a megawatt basis is the sum of the Transmission Customer's hourly amounts of Reserved Capacity in the month (not curtailed by PJM) divided by 24.

Adjustment Factor is determined as the sum of the total monthly transmission use in the PJM Region, exclusive of such use by Transmission Customers serving Non-Zone Load, divided by the total monthly transmission use in the PJM Region on a megawatt basis.

In the event that a single customer is serving load in more than one Zone, or serving Non-Zone Load as well as load in one or more Zones, or is both a Network Customer and a Transmission Customer, the Monthly Charge for such a customer shall be the sum of the Monthly Charges determined by applying the appropriate formulae set forth in this Schedule 2 for each category of service.

### **Payment to Generation Owners**

Each month, the Transmission Provider shall pay each Generation Owner an amount equal to the Generation Owner's monthly revenue requirement as accepted or approved by the Commission. In the event a Generation Owner sells a Generation Capacity Resource(s) which is included in its current effective monthly revenue requirement accepted or approved by the Commission, payments in that Generation Owner's Zone may be allocated as agreed to by the owners of Generation Capacity Resources in that Zone. Such Generation Owners shall inform Transmission Provider of any such agreement. In the absence of agreement among such Generation Owners, the Commission, upon application, shall establish the allocation. Generation Owners shall not be cligible for payment, pursuant to this Schedule 2, of monthly revenue requirement associated with those portions of generating units designated as Behind The Meter Generation.

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#### **SCHEDULE 9-5**

## Capacity Resource and Obligation Management Service

- a) Capacity Resource and Obligation Management Service comprises the activities of PJM associated with (i) assuring that customers have arranged for sufficient generating capacity to meet their unforced capacity obligations under the Reliability Assurance Agreement ("RAA"); (ii) processing Network Integration Transmission Service; (iii) administering the Reliability Pricing Model auctions for the PJM Region; and (iv) administering or providing technical support for the RAA (as delegated to PJM under the RAA), including, but not limited to, long-term load forecasting, studies to establish reserve requirements, and the determination of each Load-Serving Entity's capacity obligations. PJM's eCapacity Internet-based tool enables many of these functions. PJM provides this service to Load-Serving Entities and to owners of Capacity Resources; as such terms are defined in the RAA.
- b) PJM will charge each Load-Serving Entity in the PJM Region each month a charge equal to the Capacity Resource and Obligation Management Service Rate stated below times the summation for each day of such month of the Daily Unforced Capacity Obligation of such user, as determined for each such day pursuant to Schedule 8 or 8.1 of the RAA.
- c) In addition to any charge under paragraph (b), PJM will charge each month, each entity that included in an FRR Capacity Plan, self-scheduled, or sold and cleared, in a Reliability Pricing Model Auction, a- Capacity Resource committed to serve load for such month, a charge equal to the Capacity Resource and Obligation Management Service Rate stated below times such entity's total share, in MWs, of the Unforced Capacity of all Capacity Resources cleared or self-scheduled (including through an FRR Capacity Plan) by such entity, for commitment to serve load during such month.

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First Revised First Revised Sheet No. 319 Superseding First Revised Sheet No. 319

### B. Transmission Congestion Credits.

#### 1. General.

Financial Transmission Rights may be acquired by purchase in the Financial Transmission Rights auctions or in the secondary market provided for in Section 7 of the Appendix to this Attachment K. The Office of the Interconnection will post information on the OASIS regarding FTR auction results, FTR transfers, including which FTRs have been transferred, the amount of the transfer (MW), the duration of the transfer and the identity of the buyer and seller.

For a new PJM zone, each Transmission Customer purchasing Firm Point-to-Point Service, each Network Customer, with respect to its reservation of firm transmission service for deliveries from Network Resources to Network Load, and each Transmission Owner with respect to its reservation of firm transmission service for the delivery of energy from Generation Capacity Resources to Native Load Customers (any of the foregoing being referred to as a "Firm Transmission User"), shall receive Financial Transmission Rights ("FTRs") corresponding to points of receipt and delivery designated for their firm uses of the Transmission System. Such FTRs shall remain in effect until the first annual allocation of Auction Revenue Rights to occur after the integration of such new PJM zone into the PJM Interchange Energy Market.

Each holder of an FTR shall receive the total Transmission Congestion Credits determined in accordance with section B(2) of this Attachment.

#### 2. Determination of Credit.

(a) Overview. For each hour with respect to which the Transmission Provider receives payments of Transmission Congestion Charges, determined in accordance with section A of this Attachment, Transmission Congestion Credits shall be allocated to the holders of Financial Transmission Rights. As explained in subsection (b), the Financial Transmission Rights are associated with the points on the Transmission System between which the Firm Transmission User to whom the FTR was originally issued has arranged for the firm transmission of electric energy, whether on a network or point-to-point basis. Holders of FTRs receive credits attributable to the difference, if any, between Locational Marginal Prices at the Point or Points of Receipt and the Point or Points of Delivery associated with the Financial Transmission Rights. As explained in subsections (b) and (c), each FTR holder shares in Transmission Congestion Credits to the extent it holds Financial Transmission Rights between the Point or Points of Receipt and the Point or Points of Delivery at which congestion is experienced in a particular hour. Distribution of credits in this manner ensures that each FTR holder will not incur energy costs that are greater than the costs of energy from the generation resources associated with the FTR holder's Financial Transmission Rights. Target allocations of Transmission Congestion Credits to holders of Financial Transmission Rights are calculated in accordance with subsection (c) and Transmission Congestion Credits are distributed in accordance with that allocation, as described in subsection (d).

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### C. Virtual Bid Screening Process

If it is determined that Virtual Bid Screening is required for a market participant, the screening process will be conducted in the PJM eMKT web interface. The process will automatically reject all virtual bids and offers submitted by the PJM market participant if the participant's Credit Available for Virtual Bidding is exceeded by the Virtual Credit Exposure that is calculated based on the participant's submitted bids and offers as described below.

A Participant/Member's Virtual Credit Exposure will be calculated on a daily basis for all virtual bids submitted by the market participant for the next operating day using the following equation:

Virtual Credit Exposure = the lesser of:

- (i) ((total MWh bid or offered, whichever is greater, hourly at each node) x Nodal Reference Price x 2 days) summed over all nodes and all hours; or
- (ii) (a) ((the total MWh bid or offered, whichever is greater, hourly at each node) x the Nodal Reference Price x 1 day) summed over all nodes and all hours; plus (b) ((the difference between the total bid MWh cleared and total offered MWh cleared hourly at each node) x Nodal Reference Price) summed over all nodes and all hours for the previous three cleared day-ahead markets.
- A Member/Participant's Credit Available for Virtual Bidding will be the Member/Participant's Working Credit Limit less any unpaid billed and unbilled amounts owed to PJM, plus any current month unbilled amounts owed by PJM to the Member/Participant, less any credit required for FTR or other credit requirement determinants as defined in this Policy.

Each PJM Market Participant that is identified as requiring Virtual Bid Screening based on bidding history will be screened in the following manner: If the participant's Virtual Credit Exposure exceeds its Credit Available for Virtual Bidding, the Market Participant will be notified via an cMKT error message, and the submitted bids will be rejected. Upon such notification, the Market Participant may alter its virtual bids and offers so that its Virtual Credit Exposure does not exceed its Credit Available for Virtual Bidding, and may resubmit them. Bids may be submitted in one or more groups during a day. If one or more groups of bids is submitted and accepted, and a subsequent group of submitted bids causes the total submitted bids to exceed the Virtual Credit Exposure, then only that subsequent set of bids will be rejected. Previously accepted bids will not be affected, though the Market Participant may choose to withdraw them voluntarily.

## IV. RELIABILITY PRICING MODEL AUCTION CREDIT REQUIREMENTS

Settlement during any Delivery Year of cleared positions resulting or expected to result from any Reliability Pricing Model Auction shall be included as appropriate in Peak Market Activity, and the provisions of this Attachment Q shall apply to any such activity and obligations arising therefrom. In addition, the provisions of this section shall apply to any entity seeking to participate in any RPM Auction, to address credit risks unique to such auctions.

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### A. Applicability

A Market Seller seeking to submit a Sell Offer in any Reliability Pricing Model Auction based on any Capacity Resource for which there is a materially increased risk of non-performance must satisfy the credit requirement specified in section IV.B before submitting such Sell Offer. Credit must be maintained until such risk of non-performance is substantially eliminated, but may be reduced commensurate with the reduction in such risk, as set forth in Section IV.C.

For purposes of this provision, a resource for which there is a materially increased risk of non-performance shall mean: (i) a Planned Generation Capacity Resource; (ii) a Planned Demand Resource; (iii) a Qualifying Transmission Upgrade; or (iv) an existing Generation Capacity Resource located outside the PJM Region that at the time it is submitted in a Sell Offer has not secured firm transmission service to the border of the PJM Region sufficient to satisfy the deliverability requirements of the Reliability Assurance Agreement.

## B. Reliability Pricing Model Auction Credit Requirement

For any resource specified in Section IV.A, the credit requirement shall be the RPM Auction Credit Rate, as provided in Section IV.D, times the megawatts to be offered for sale from such resource in a Reliability Pricing Model Auction. As set forth in Section IV.D, the Auction Credit Requirement shall be determined separately for each Delivery Year. The RPM Auction Credit Requirement for each Market Seller shall be the sum of the credit requirements for all such resources to be offered by such Market Seller in the auction.

### C. Reduction in Credit Requirement

The RPM Auction Credit Requirement for a Market Seller will be reduced for any Delivery Year to the extent less than all of such Market Seller's offers clear in the Base Residual Auction or any Incremental Auction for such Delivery Year. Such reduction shall be proportional to the quantity, in megawatts, that failed to clear in such Delivery Year. As specified in Section IV.D, the RPM Auction Credit Rate also may be reduced under certain circumstances after the auction has closed.

In addition, the RPM Auction Credit Requirement for a Participant for any given Delivery Year shall be reduced periodically, provided the Participant successfully meets progress milestones that reduce the risk of non-performance, as follows:

a. For Planned Demand Resources, the RPM Auction Credit Requirement will be reduced in direct proportion to the megawatts of such Demand Resource that the Resource Provider qualifies as a Capacity Resource, in accordance with the procedures established under the Reliability Assurance Agreement.

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- b. For existing Generation Capacity Resources located outside the PJM Region that have not secured sufficient firm transmission to the border of the PJM Region prior to the auction in which such resource is first offered, the RPM Credit Requirement shall be reduced in direct proportion to the megawatts of firm transmission service secured by the Market Seller that qualify such resource under the deliverability requirements of the Reliability Assurance Agreement.
- c. For Planned Generation Capacity Resources, the RPM Credit Requirement shall be reduced to 50% of the amount calculated under Section IV.B beginning as of the effective date of an Interconnection Service Agreement, and shall be reduced to zero on the date of commencement of Interconnection Service.
- d. For Qualifying Transmission Upgrades, the RPM Credit Requirement shall be reduced to zero on the date the Qualifying Transmission Upgrade is placed in service.

### D. RPM Auction Credit Rate

Market Sellers offering resources into a Reliability Pricing Model Auction for any Delivery Year will incur a forward financial obligation to PJM if: (i) the offered resource clears in such auction; (ii) the Market Seller subsequently becomes deficient in its ability to provide such resource; (iii) the Market Seller participates in a First or Third Incremental Auction to obtain replacement resources for such Season Delivery Year to meet the obligation for which the Market Seller is deficient; and (iv) the Capacity Resource Clearing Price in such Incremental Auction exceeds the Capacity Resource Clearing Price the resource was to receive as a result of clearing the prior auction.

As set forth in the PJM Manuals, a separate Auction Credit Rate shall be calculated for each Delivery year prior to each Reliability Pricing Model Auction for such Delivery Year, as follows:

a. For a Base Residual Auction for a Delivery Year, the Auction Credit Rate for each Season shall be the marginal value of system capacity determined in the Base Residual Auction for the prior Delivery Year, times the number of days in such prior Delivery Year, times the Maximum Price Exposure factor described below; provided, however, that for the Delivery Year addressed in the first RPM Base Residual Auction, the marginal value of system capacity used in this formula shall be determined analytically through simulation programming, and shall be posted prior to the auction.

For any Incremental Auction for a Delivery Year, the Auction Credit Rate shall be the marginal value of system capacity determined in the Base Residual Auction for such Delivery Year, times the number of days in such Delivery Year, times the Maximum Price Exposure factor described below.

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- b. Subsequent to any auction, the Auction Credit Rate used for ongoing credit requirements for supply committed in such auction shall be the lesser of the Auction Credit Rate established prior to offering into the auction, and the actual marginal value of system capacity (times the number of days in such Delivery Year, times the Maximum Price Exposure factor described below) that was posted for that auction for all of a supplier's offers which cleared in that auction.
- c. The Maximum Price Exposure factor will be calculated as follows:
  - 1. Prior to the date that three Incremental Auctions for a given Delivery Year(s) have been conducted, the Maximum Price Exposure factor will be the maximum expected two-year percent price increase with a 90% confidence based on PJM's market simulations.
  - 2. After three Incremental Auctions have been conducted for any Delivery Year(s), but before six such auctions have been conducted, the Maximum Price Exposure factor will be calculated initially in the same manner as for the first three Incremental Auctions, but shall be reduced to the extent the greatest percent price increase for a given Delivery Year (as measured between any Incremental Auction and its associated Base Residual Auction) was less than the value initially calculated, and shall be increased to the extent the second greatest percent price increase for a given Delivery Year (as measured between any Incremental Auction and its associated Base Residual Auction) was greater than the value initially calculated.
  - 3. After six Incremental Auctions have been conducted for any Delivery Year(s), the Maximum Price Exposure factor for such Delivery Year will be the second largest percent price increase (as measured between any Incremental Auction and its associated Base Residual Auction) for any Incremental Auctions for such Delivery Year conducted during the then-current calendar year or during any of the three preceding calendar years.

#### E. Forms of Financial Security

In addition to the forms of credit specified elsewhere in this Attachment Q, the following form of unsecured credit shall be available to Market Sellers, but solely for purposes of satisfying RPM Auction Credit Requirements. If a supplier has a history of being a net seller into PJM markets, on average, over the past 12 months, then PJM will count as available unsecured credit twice the average of that participant's total net monthly PJM bills over the past 12 months.

### V. FORMS OF FINANCIAL SECURITY

Applicants/Participants/Members that provide Financial Security must provide the security in a PJM approved form and amount according to the guidelines below.

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Acceptable forms of Financial Security include cash deposits and letters of credit.

#### FINANCIAL TRANSMISSION RIGHT AUCTIONS V.I

#### A. SCOPE.

Credit shall be required for all FTR auction products. The foregoing notwithstanding, bids from Established Monthly FTR Market Participants for single calendar month FTRs covering the month beginning immediately after a monthly FTR auction will not be included in their FTR credit requirement(s).

### A. Total FTR Credit Requirement.

PJM shall calculate a total FTR credit requirement for each Market Participant equal to the sum of its Auction Credit Requirements for all FTR auctions. Market Participants in FTR Auctions shall be required to maintain this minimum amount of credit with PJM in addition to any other credit requirements the Market Participant may have pursuant to the Tariff.

### C. Auction Credit Requirement.

For each FTR auction, PJM shall calculate an Auction Credit Requirement for each Market Participant. If a set of submitted bids would ever cause a Market Participant's Auction Credit Requirement to exceed the Market Participant's auction credit limit, then that set of Submitted bids shall be rejected.

In calculating a Market Participant's Auction Credit Requirement, self-scheduled FTR's shall have a zero credit requirement. Positive FTR bids for which the bidder holds matching ARRs will not be counted in the bid total. In addition, the Auction Credit Requirement will be reduced in accordance with the credit release schedule set forth in section IV.E of this Credit Policy.

#### A. Total FTR Credit Limit.

Market Participants shall establish a total FTR credit limit prior to bidding in an FTR auction, provided that this requirement shall not apply if an Established Monthly FTR Market Participant exclusively bids on single calendar month FTRs covering the month beginning immediately after a monthly FTR auction.

A total FTR credit limit can be established by utilizing the unused portion of a Market Participant's currently established Unsecured Credit limit at PJM provided the Market Participant specifically makes such a request in writing to the PJM Treasury Department. FTR credit can also be established or enhanced by the Market Participant providing additional Financial Security or Corporate Guaranty, of a type acceptable under this Credit Policy.

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- The letter of credit must clearly state the full names of the "Issuer", "Account Party" and "Beneficiary" (PJM), the dollar amount available for drawings, and shall specify that funds will be disbursed upon presentation of the drawing certificate in accordance with the instructions stated in the letter of credit. The letter of credit should specify any statement that is required to be on the drawing certificate, and any other terms and conditions that apply to such drawings.
- The PJM Credit Application contains an acceptable form of a letter of credit that should be utilized by an Applicant/Participant/Member choosing to meet its Financial Security requirement with a letter of credit. If the letter of credit varies in any way from the PJM format, it must first be reviewed and approved by PJM. All costs associated with obtaining and maintaining a letter of credit and meeting the policy provisions are the responsibility of the Applicant/Participant/Member
- PJM may accept a letter of credit from a Financial Institution that does not meet the
  credit standards of this Policy provided that the letter of credit has third-party support,
  in a form acceptable to PJM, from a financial institution that does meet the credit
  standards of this Policy.

### VI. EVENTS OF DEFAULT

Failure to comply with this policy (except for the responsibility of an Applicant/Participant/Member to notify PJM of a Material change) shall be considered an event of default. Pursuant to §15.1.3(a) of the Operating Agreement of PJM Interconnection, L.L.C. and §1.7.3 of the PJM Open Access Transmission Tariff, non-compliance with the PJM Credit Policy is an event of default under those respective Agreements. In event of default under this Credit Policy or one or more of the Agreements, PJM will take such actions as may be required or permitted under the Agreements, including but not limited to the termination of Participant/Member's ongoing Transmission Service and participation in PJM Markets. A Participant/Member will have three (3) Business Days from notification of policy breach to remedy the situation in a manner deemed acceptable by PJM. PJM has the right to liquidate all or a portion of a Participant/Member's Financial Security at its discretion to satisfy Total Net Obligations to PJM in the event of default under this Credit Policy or one or more of the Agreements.

#### VII. DEFINITIONS:

Affiliate -Affiliate is defined in the PJM Operating Agreement, §1.2.

Agreements – The Operating Agreement of PJM Interconnection, L.L.C., the PJM Open Access Transmission Tariff, the Reliability Assurance Agreement, the Reliability

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Individual FTR Credit Requirements – Shall mean the bid price for the FTR less the Revenue Offset for the FTR. If the Individual FTR Credit Requirement for an FTR results in a value less that zero, that Individual FTR Credit Requirement shall be set to zero.

Market Participant – shall have the meaning provided in the Operating Agreement.

Material - For these purposes, material is defined in §I.B.3, Material Changes. For the purposes herein, the use of the term "material" is not necessarily synonymous with use of the term by governmental agencies and regulatory bodies.

Member – shall have the meaning provided in the Operating Agreement.

Net Obligation – The amount owed to PJM for purchases from the PJM Markets, Transmission Service, (under both Part II and Part III of the O.A.T.T.), and other services pursuant to the Agreements, after applying a deduction for amounts owed to a Participant by PJM as it pertains to monthly market activity. Should other markets be formed such that Participants may incur future Obligations in those markets, then the aggregate amount of those Obligations will also be added to the Net Obligation.

Nodal Reference Price – A probabilistic (97%) maximum price differential historically experienced between day-ahead and real-time market prices at a given location as defined in this policy. This number is used in Virtual Bid Screening.

**Obligation** – All amounts owed to PJM for purchases from the PJM Markets, Transmission Service, (under both Part II and Part III of the O.A.T.T.), and other services pursuant to the Agreements. In addition, aggregate amounts that will be owed to PJM in the future for Capacity purchases within the PJM Capacity markets will be added to this

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PJM Interconnection, L.L.C. FERC Electric Tariff Sixth Revised Volume No. 1

Third Revised Sheet No. 562 Superseding Second Revised Sheet No. 562

#### ATTACHMENT DD

[Note: redlining in Attachment DD shows revisions against Attachment Y in PJM's August 31, 2005 Filing in Docket Nos. ER05-1410 and EL05-148]

### Reliability Pricing Model

#### 1. INTRODUCTION

This Attachment sets forth the terms and conditions governing the Reliability Pricing Model for the PJM Region. As more fully set forth in this Attachment and the PJM Manuals, and in conjunction with the Reliability Assurance Agreement, the Reliability Pricing Model provides:

- (a) support for LSEs in satisfying Daily Unforced Capacity Obligations for future Delivery Years through Self Supply of Capacity Resources;
- (b) a competitive auction mechanism to secure the forward commitment of additional Capacity Resources and Qualifying Transmission Upgrades as necessary to satisfy the portion of LSEs' Unforced Capacity Obligations not satisfied through Self-Supply, in order to ensure the reliability of the PJM Region for future Delivery Years;
- (c) long-term pricing signals for the development of Capacity Resources, including demand resources and planned generation resources, to ensure the reliability of the PJM Region;
- (d) recognition for the locational benefits of Capacity Resources;
- (e) deficiency charges to ensure progress toward, and fulfillment of, forward commitments by demand and generation resources to satisfy capacity requirements;
- (f) measures to identify and mitigate capacity market structure deficiencies; and
- (g) a Reliability Backstop mechanism to ensure that sufficient generation, transmission and demand response solutions will be available to preserve system reliability.

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#### 2. **DEFINITIONS**

Definitions specific to this Attachment are set forth below. In addition, any capitalized terms used in this Attachment not defined herein shall have the meaning given to such terms elsewhere in this Tariff or in the RAA. References to section numbers in this Attachment DD refer to sections of this attachment, unless otherwise specified.

#### 2.1 Annual Revenue Rate

"Annual Revenue Rate" shall mean the rate employed to assess a compliance penalty charge on a Demand Resource Provider or ILR Provider under section 11.

#### 2.2 Avoidable Cost Rate

"Avoidable Cost Rate" shall mean a component of the Market Seller Offer Cap calculated in accordance with section 6.

#### 2.3 Base Load Generation Resource

"Base Load Generation Resource" shall mean a Generation Capacity Resource that operates at least 90 percent of the hours that it is available to operate, as determined by the Office of the Interconnection in accordance with the PJM Manuals.

### 2.4 Base Offer Segment

"Base Offer Segment" shall mean a component of a Sell Offer based on an existing Generation Capacity Resource, equal to the Unforced Capacity of such resource, as determined in accordance with the PJM Manuals, minus the EFORd Offer Segment. If the Sell Offers of multiple Market Sellers are based on a single existing Generation Capacity Resource, the Base Offer Segments of such Market Sellers shall be determined pro rata based on their entitlements to Unforced Capacity from such resource.

#### 2.5 Base Residual Auction

"Base Residual Auction" shall mean the auction conducted three years prior to the start of the Delivery Year to secure commitments from Capacity Resource as necessary to satisfy any portion of the Unforced Capacity Obligation of the PJM Region not satisfied through Self-Supply.

### 2.6 Buy Bid

"Buy Bid" shall mean a bid to buy Capacity Resources in the First Incremental Auction or Third Incremental Auction.

#### 2.7 Capacity Credit

"Capacity Credit" shall have the meaning specified in Schedule 11 of the Operating Agreement, including Capacity Credits obtained prior to the termination of such Schedule applicable to periods after the termination of such Schedule.

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### 2.8 Capacity Emergency Transfer Limit

"Capacity Emergency Transfer Limit" or "CETL" shall have the meaning provided in the Reliability Assurance Agreement.

### 2.9 Capacity Emergency Transfer Objective

"Capacity Emergency Transfer Objective" or "CETO" shall have the meaning provided in the Reliability Assurance Agreement.

### 2.10 Capacity Market Buyer

"Capacity Market Buyer" shall mean a Member that submits bids to buy Capacity Resources in the First Incremental Auction or Third Incremental Auction.

### 2.11 Capacity Market Seller

"Capacity Market Seller" shall mean a Member that owns, or has the contractual authority to control the output or load reduction capability of, a Capacity Resource, that has not transferred such authority to another entity, and that offers such resource in the Base Residual Auction or an Incremental Auction.

### 2.12 Capacity Resource

"Capacity Resource" shall have the meaning specified in the Reliability Assurance Agreement.

### 2.13 Capacity Resource Clearing Price

"Capacity Resource Clearing Price" shall mean the price calculated for a Capacity Resource that offered and cleared in a Base Residual Auction or Incremental Auction, in accordance with Section 5.

### 2.14 Capacity Transfer Right

"Capacity Transfer Right" shall mean a right, allocated to LSEs serving load in a Locational Deliverability Area, to receive payments, based on the transmission import capability into such Locational Deliverability Area, that offset, in whole or in part, the charges attributable to the Locational Price Adder, if any, included in the Zonal Capacity Price calculated for a Locational Delivery Area.

#### 2.15 CONE Area

"CONE Area" shall mean the areas listed in section 5.10(a)(iv)(A) and any LDAs established as CONE Areas pursuant to section 5.10(a)(iv)(B).

#### 2.16 Cost of New Entry

"Cost of New Entry" or "CONE" shall mean the nominal levelized cost of a Reference Resource, as determined in accordance with section 5.

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### 2.17 Daily Deficiency Rate

"Daily Deficiency Rate" shall mean the rate employed to assess certain deficiency charges under sections 7, 8, 9, or 12.

## 2.18 Daily Unforced Capacity Obligation

"Daily Unforced Capacity Obligation" shall mean the capacity obligation of a Load Serving Entity during the Delivery Year, determined in accordance with Schedule 8 of the Reliability Assurance Agreement.

### 2.19 Delivery Year

Delivery Year shall mean the Planning Period for which a Capacity Resource is committed pursuant to the auction procedures specified in Section 5.

### 2.20 Demand Resource

"Demand Resource" shall have the meaning specified in the Reliability Assurance Agreement.

### 2.21 Demand Resource Factor

"Demand Resource Factor" shall have the meaning specified in the Reliability Assurance Agreement.

### 2.22 Demand Resource Provider

"Demand Resource Provider" shall mean a Member that has the capability to reduce load, or that aggregates customers capable of reducing load. A Curtailment Service Provider, as defined in the Operating Agreement, may be a Demand Resource Provider, provided it qualifies its load reduction capability as a Demand Resource.

#### **2.23 EFORd**

"EFORd" shall have the meaning specified in the PJM Reliability Assurance Agreement.

## 2.24 EFORd Offer Segment

"EFORd Offer Segment" shall mean a component of a Sell Offer permitted under section 6 to address the potential for changes in EFORd in the time period between the conduct of an auction and the final determination of EFORd for a Delivery Year. If the Sell Offers of multiple Market Sellers are based on a single existing Generation Capacity Resource, the EFORd Offer Segments of such Market Sellers shall be determined pro rata based on their entitlements to Unforced Capacity from such resource.

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### 2.25 Equilibrium Zone

"Equilibrium Zonc" shall mean: (a) for the VRR Curve for the PJM Region, any quantity of Unforced Capacity between (i) [the PJM Region Reliability Requirement multiplied by (100% plus IRM%) divided by (100% plus IRM%)] minus the Forecast RTO ILR Obligation; and (ii) [the PJM Region Reliability Requirement multiplied by (100% plus IRM% plus 2%) divided by (100% plus IRM%)] minus the Forecast RTO ILR Obligation; and (b) for the VRR Curve for any Locational Deliverability Area, any quantity of Unforced Capacity between (i) [the LDA Reliability Requirement multiplied by (100% plus IRM%)] minus the Forecast LDA ILR Obligation; and (ii) [the LDA Reliability Requirement multiplied by (100% plus IRM%)] minus the Forecast LDA ILR Obligation (if not previously accounted for in establishing the CETO for such LDA), where "Forecast LDA ILR Obligation" shall mean the sum of the Forecast Zonal ILR Obligations for all Zones in such LDA.

# 2.26 Final RTO Unforced Capacity Obligation

"Final RTO Unforced Capacity Obligation" shall mean the capacity obligation for the PJM Region, determined in accordance with Schedule 8 of the Reliability Assurance Agreement.

#### 2.27 First Incremental Auction

"First Incremental Auction" shall mean an auction conducted pursuant to Section 5 in which Market Sellers that committed Capacity Resources in the Base Residual Auction for a Delivery Year, which subsequently are determined to be unavailable to deliver the committed Unforced Capacity in such Delivery Year, may submit Buy Bids for replacement Capacity Resources.

#### 2.28 Forecast Pool Requirement

"Forecast Pool Requirement" shall have the meaning specified in the Reliability Assurance Agreement.

### 2.29 Forecast RTO ILR Obligation

"Forecast RTO ILR Obligation" shall mean, in unforced capacity terms, the ILR Forecast for the PJM Region times the DR Factor, times the Forecast Pool Requirement.

#### 2.30 Forecast Zonal ILR Obligation

"Forecast Zonal ILR Obligation" shall mean, in unforced capacity terms, the ILR Forecast for the Zone times the DR Factor, times the Forecast Pool Requirement.

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### 2.31 Generation Capacity Resource

"Generation Capacity Resource" shall have the meaning specified in the Reliability Assurance Agreement.

#### 2.32 ILR Forecast

"ILR Forecast" shall mean, for a Delivery Year, the average annual megawatt quantity of ILR certified for the five Planning Periods preceding the date of the forecast; provided, however, that before such data becomes available for five Delivery Years under the Reliability Pricing Model, comparable data on Active Load Management (as defined in the preexisting reliability assurance agreements) from up to five prior Planning Periods shall be substituted as necessary; and provided further that, for transmission zones that were integrated into the PJM Region less than five years prior to the conduct of the Base Residual Auction for the Delivery Year, data on incremental load subject to mandatory interruption by Electric Distribution Companies within such zones shall be substituted as necessary.

#### 2.33 ILR Provider

"ILR Provider" shall mean a Member that has the capability to reduce load, or that aggregates customers capable of reducing load. A Curtailment Service Provider, as such term is defined in the PJM Operating Agreement, may be an ILR Provider, provided it obtains certification of its load reduction capability as ILR.

#### 2.34 Incremental Auction

"Incremental Auction" shall mean any of the First Incremental Auction, Second Incremental Auction, or Third Incremental Auction.

## 2.35 Incremental Capacity Transfer Right

"Incremental Capacity Transfer Right" shall mean a Capacity Transfer Right allocated to a Generation Interconnection Customer or Transmission Interconnection Customer obligated to fund a transmission facility or upgrade, to the extent such upgrade or facility increases the transmission import capability into a Locational Deliverability Area.

#### 2.36 Interruptible Load for Reliability (ILR)

"Interruptible Load for Reliability" or "ILR" shall have the meaning specified in the Reliability Assurance Agreement.

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# 2.37 Load Serving Entity (LSE)

"Load Serving Entity" or "LSE" shall have the meaning specified in the Reliability Assurance Agreement.

### 2.38 Locational Deliverability Area (LDA)

"Locational Deliverability Area" or "LDA" shall mean a geographic area within the PJM Region that has limited transmission capability to import capacity to satisfy such area's reliability requirement, as determined by the Office of the Interconnection in connection with preparation of the Regional Transmission Expansion Plan, and as specified in Schedule 10.1 of the Reliability Assurance Agreement.

### 2.39 Locational Deliverability Area Reliability Requirement

"Locational Deliverability Area Reliability Requirement" shall mean the projected internal capacity in the Locational Deliverability Area plus the Capacity Emergency Transfer Objective for the Delivery Year, as determined by the Office of the Interconnection in connection with preparation of the Regional Transmission Expansion Plan.

#### 2.40 Locational Price Adder

"Locational Price Adder" shall mean an addition to the marginal value of Unforced Capacity within an LDA as necessary to reflect the price of Capacity Resources required to relieve applicable binding locational constraints.

#### 2.41 Locational Reliability Charge

"Locational Reliability Charge" shall have the meaning specified in the Reliability Assurance Agreement.

## 2.42 Net Cost of New Entry

"Net Cost of New Entry" shall mean the Cost of New Entry minus the Net Energy and Ancillary Service Revenue Offset, as defined in Section 5.

#### 2.43 Nominated Demand Resource Value

"Nominated Demand Resource Value" shall mean the amount of load reduction that a Demand Resource commits to provide either through direct load control, firm service level or guaranteed load drop programs. For existing Demand Resources, the maximum Nominated Demand Resource Value is limited, in accordance with the PJM Manuals, to the value appropriate for the method by which the load reduction would be accomplished, at the time the Base Residual Auction or Incremental Auction is being conducted.

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### 2.44 Nominated ILR Value

"Nominated ILR Value" shall mean the amount of load reduction that an ILR resource commits to provide either through direct load control, firm service level or guaranteed load drop programs. For ILR, the maximum Nominated ILR Capacity Value is limited, in accordance with the PJM Manuals, to the value appropriate for the method by which the load reduction would be accomplished, at the time the ILR is certified.

### 2.45 Opportunity Cost

"Opportunity Cost" shall mean a component of the Market Seller Offer Cap calculated in accordance with section 6.

### 2.46 Peak-Hour Dispatch

"Peak-Hour Dispatch" shall mean, for purposes of calculating the Energy and Ancillary Services Revenue Offset under section 5 of this Attachment, an assumption, as more fully set forth in the PJM Manuals, that the Reference Resource is dispatched in four distinct blocks of four hours of continuous output for each block from the peak-hour period beginning with the hour ending 0800 EPT through to the hour ending 2300 EPT for any day when the average real-time LMP for the area for which the Net Cost of New Entry is being determined is greater than, or equal to, the cost to generate (including the cost for a complete start and shutdown cycle) for at least two hours during each four-hour block, where such blocks shall be assumed to be dispatched independently; provided that, if there are not at least two economic hours in any given four-hour block, then the Reference Resource shall be assumed not to be dispatched for such block.

#### 2.47 Peak Season

"Peak Season" shall mean the weeks containing the 24<sup>th</sup> through 36<sup>th</sup> Wednesdays of the calendar year. Each such week shall begin on a Monday and end on the following Sunday, except for the week containing the 36<sup>th</sup> Wednesday, which shall end on the following Friday.

## 2.48 Percentage Internal Resources Required

"Percentage Internal Resources Required" shall have the meaning specified in the Reliability Assurance Agreement.

#### 2.49 Planned Demand Resource

"Planned Demand Resource" shall have the meaning specified in the Reliability Assurance Agreement.

### 2.50 Planned Generation Capacity Resource

"Planned Generation Capacity Resource" shall have the meaning specified in the Reliability Assurance Agreement.

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## 2.51 Planning Period

"Planning Period" shall have the meaning specified in the Reliability Assurance Agreement.

## 2.52 PJM Region

"PJM Region" shall have the meaning specified in the Reliability Assurance Agreement.

# 2.53 PJM Region Installed Reserve Margin

"PJM Region Installed Reserve Margin" shall have the meaning specified in the Reliability Assurance Agreement.

## 2.54 PJM Region Peak Load Forecast

"PJM Region Peak Load Forecast" shall mean the peak load forecast used by the Office of the Interconnection in determining the PJM Region Reliability Requirement, and shall be determined on both a preliminary and final basis as set forth in section 5.

# 2.55 PJM Region Reliability Requirement

"PJM Region Reliability Requirement" shall mean, for purposes of the Base Residual Auction, the Forecast Pool Requirement multiplied by the Preliminary PJM Region Peak Load Forecast; and, for purposes of the Second Incremental Auction, the Forecast Pool Requirement multiplied by the Final PJM Region Peak Load Forecast.

# 2.56 Projected PJM Market Revenues

"Projected PJM Market Revenues" shall mean a component of the Market Seller Offer Cap calculated in accordance with section 6.

# 2.57 Qualifying Transmission Upgrade

"Qualifying Transmission Upgrade" shall mean a proposed enhancement or addition to the Transmission System that: (a) will increase the Capacity Emergency Transfer Limit into an LDA by a megawatt quantity certified by the Office of the Interconnection; (b) the Office of the Interconnection has determined will be in service on or before the commencement of the first Delivery Year for which such upgrade is the subject of a Sell Offer in the Base Residual Auction; (c) is the subject of a Facilities Study Agreement executed before the conduct of the Base Residual Auction for such Delivery Year and (d) a Generation Interconnection Customer or Transmission Interconnection Customer is obligated to fund through a rate or charge specific to such facility or upgrade.

### 2.58 Reference Resource

"Reference Resource" shall mean a combustion turbine generating station, configured with two General Electric Frame 7FA turbines with inlet air cooling to 50 degrees, Selective Catalytic Reduction technology, dual fuel capability, and a heat rate of 10,500 Mmbtu/MWh..

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#### Reliability Assurance Agreement 2.59

"Reliability Assurance Agreement" shall mean that certain "Reliability Assurance Agreement Among Load-Serving Entities in the PJM Region," on file with FERC as PJM Interconnection, L.L.C. Rate Schedule FERC No.44.

#### **Reliability Pricing Model Auction** 2.60

"Reliability Pricing Model Auction" shall mean the Base Residual Auction or any Incremental Auction.

#### Resource Substitution Charge 2.61

"Resource Substitution Charge" shall mean a charge assessed on Capacity Market Buyers in a First Incremental Auction or Third Incremental Auction to recover the cost of replacement Capacity Resources.

#### **Second Incremental Auction** 2.62

"Second Incremental Auction" shall mean an auction conducted pursuant to Section 5, to secure the commitment of Capacity Resources as necessary to satisfy an increase in the PJM Region Peak Load Forecast above that reflected in the Base Residual Auction.

#### Sell Offer 2.63

"Sell Offer" shall mean an offer to sell Capacity Resources in a Base Residual Auction, Incremental Auction, or Reliability Backstop Auction.

#### Sell Offer Price Cap 2.64

"Sell Offer Price Cap" shall mean a maximum offer price applicable to certain Market Sellers under certain conditions, as determined in accordance with Section 6.

#### **Self-Supply** 2.65

"Self-Supply" shall mean Capacity Resources secured by a Load-Serving Entity, by ownership or contract, outside a Reliability Pricing Model Auction, and used to meet obligations under this Attachment or the Reliability Assurance Agreement through submission in a Base Residual Auction of a Sell Offer indicating such Market Seller's intent that such Capacity Resource be committed regardless of clearing price. An LSE may submit a Sell Offer with a price bid for an owned or contracted Capacity Resource, but such Sell Offer shall not be deemed "Self-Supply," solely as such term is used in this Attachment.

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#### 2.66 Third Incremental Auction

"Third Incremental Auction" shall mean an auction conducted pursuant to Section 5, in which Market Sellers that committed Capacity Resources in the Base Residual, First Incremental, or Second Incremental Auction for a Delivery Year, which subsequently are determined to be unavailable to deliver the committed Unforced Capacity in such Delivery Year, may submit Buy Bids for replacement Capacity Resources.

### 2.67 Transition Adder

"Transition Adder" shall mean a component of a Sell Offer permitted for certain Capacity Market Sellers for the Transition Period, as set forth in section 17.2.68

Transition Period

"Transition Period" shall mean the four-year period consisting of the Delivery Years commencing June 1, 2007, June 1, 2008, June 1, 2009, and June 1, 2010.

## 2.69 Unforced Capacity

"Unforced Capacity" shall have the meaning specified in the Reliability Assurance Agreement.

### 2.70 Variable Resource Requirement Curve

"Variable Resource Requirement Curve" shall mean a series of maximum prices that can be cleared in a Base Residual Auction for Unforced Capacity, corresponding to a series of varying resource requirements based on varying installed reserve margins, as determined by the Office of the Interconnection for the PJM Region and for certain Locational Deliverability Areas in accordance with the methodology provided in Section 5.

#### 2.71 Zonal Capacity Price

"Zonal Capacity Price" shall mean the clearing price required in each Zone to meet the demand for Unforced Capacity and satisfy Locational Deliverability Requirements for the LDA or LDAs associated with such Zone. If the Zone contains multiple LDAs with different Capacity Resource Clearing Prices, the Zonal Capacity Price shall be a weighted average of the Capacity Resource Clearing Prices for such LDAs, weighted by the Unforced Capacity of Capacity Resources cleared in each such LDA.

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#### 3. RESPONSIBILITIES OF THE OFFICE OF THE INTERCONNECTION

### 3.1 Support for Self-Supply

The Office of the Interconnection shall (a) support electronic tools to facilitate communication by Market Sellers and Market Buyers of information to the Office of the Interconnection concerning Self-Supply arrangements; (b) support an electronic bulletin board providing a forum for prospective buyers and sellers to transact Capacity Resources outside the Reliability Pricing Model Auctions, in accordance with procedures set forth in the PJM Manuals; (c) define one or more capacity trading hubs and determine and publicize values for such hubs based on the capacity prices determined for one or more Locational Deliverability Areas, in accordance with the PJM Manuals; and (d) establish procedures by which obligations to pay Locational Reliability Charges may be transferred between and among Load-Serving Entities and other Market Participants for purposes of settlement and billing, including procedures by which, before or after any Base Residual Auction, a Load Serving Entity or other Market Participant seeking to effectuate any such transfer shall identify to the Office of the Interconnection the transferee, transferor, quantity of obligations to be transferred, start and end date of the transfer, and the location (for example, the LDA), including pricing for such location, for which an obligation to pay Locational Reliability Charges is calculated; provided, however, that any such transfer shall not alter the physical supply and demand balance in the Base Residual Auction, and that such transfers shall not establish any obligations that are incompatible with any such auction.

#### 3.2 Administration of the Base Residual Auction and Incremental Auctions

The Office of the Interconnection shall conduct and administer the Base Residual Auction and Incremental Auctions in accordance with this Attachment, the Operating Agreement, and the Reliability Assurance Agreement. Administration of the Base Residual Auction and Incremental Auctions shall include, but not be limited to, the following:

- a) Determining the qualification of entities to become Capacity Market Sellers and Capacity Market Buyers;
- b) Determining PJM Region Peak Load Forecasts and Locational Deliverability Area Reliabilty Requirements;
- c) Determining ILR Forecasts;
- d) Determining the need, if any, for a Second Incremental Auction and calculating the PJM Region Peak Load Forecast for use in such auction;
- e) Calculating the EFORd for each Generation Capacity Resource in the PJM Region to be used in the Third Incremental Auction;

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- f) Receiving Buy Bids and Sell Offers, determining Locational Deliverability Requirements and Variable Resource Requirement Curves, and determining the clearing price that reflects all such inputs;
- g) Conducting settlements for auction transactions, including but not limited to rendering bills to, receiving payments from, and disbursing payments to, participants in Base Residual Auctions and Incremental Auctions.
- h) Maintaining such records of Sell Offers and Buy Bids, clearing price determinations, and other aspects of auction transactions, as may be appropriate to the administration of Base Residual Auctions and Incremental Auctions; and
- i) Posting of selected non-confidential data used in Reliability Pricing Model Auctions to calculate clearing prices and other auction results, as appropriate to inform market participants of auction conditions.

# 3.3 Records and Reports

The Office of the Interconnection shall prepare and maintain such records as are required for the administration of the Base Residual Auction and Incremental Auctions. For each auction conducted, the Office of the Interconnection shall, consistent with section 18.17 of the Operating Agreement, publish the following: (i) Zonal Capacity Prices for each LDA; (ii) (ii) Capacity Resource Clearing Prices for each LDA; (iii) Locational Price Adders; (iv) the total megawatts of Unforced Capacity that cleared; and (v) such other auction data as may be appropriate to the efficient and competitive conduct of the Base Residual Auction and Incremental Auctions. Such information shall be available on the PJM internet site through the end of the Delivery Year to which such auctions apply.

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### 4. GENERAL PROVISIONS

### 4.1 Capacity Market Sellers

Only Capacity Market Sellers shall be eligible to submit Sell Offers into the Base Residual Auction and Incremental Auctions. Capacity Market Sellers shall comply with the terms and conditions of all Sell Offers, as established by the Office of the Interconnection in accordance with this Attachment and the Operating Agreement.

### 4.2 Capacity Market Buyers

Only Capacity Market Buyers shall be eligible to submit Buy Bids into the First Incremental Auction or Third Incremental Auction. Capacity Market Buyers shall comply with the terms and conditions of all Buy Bids, as established by the Office of the Interconnection in accordance with this Attachment and the Operating Agreement.

### 4.3 Agents

A Capacity Market Seller may participate in the Base Residual Auction through an Agent, provided that the Capacity Market Seller informs the Office of the Interconnection in advance in writing of the appointment and authority of such Agent. A Capacity Market Buyer may participate in a First Incremental Auction or a Third Incremental Auction through an Agent, provided that the Capacity Market Buyer informs the Office of the Interconnection in advance in writing of the appointment and authority of such Agent. A Capacity Market Buyer or Capacity Market Seller participating in such an auction through an Agent shall be bound by all of the acts or representations of such Agent with respect to transactions in such auction. Any written instrument establishing the authority of such Agent shall provide that any such Agent shall comply with the requirements of this Attachment and the Operating Agreement.

# 4.4 General Obligations of Capacity Market Buyers and Capacity Market Sellers

Each Capacity Market Buyer and Capacity Market Seller shall comply with all laws and regulations applicable to the operation of the Base Residual and Incremental Auctions and the use of these auctions shall comply with all applicable provisions of this Attachment, the Operating Agreement, and the Reliability Assurance Agreement, and all procedures and requirements for the conduct of the Base Residual and Incremental Auctions and the PJM Region established by the Office of the Interconnection in accordance with the foregoing.

### 4.5 Confidentiality

The following information submitted to the Office of the Interconnection in connection with any Base Residual Auction, Incremental Auction, or Reliability Backstop Auction shall be deemed confidential information for purposes of Section 18.17 of the Operating Agreement: (i) the terms and conditions of the Sell Offers and Buy Bids; and (ii) the terms and conditions of any bilateral transactions for Capacity Resources.

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### 5. CAPACITY RESOURCE COMMITMENT

#### 5.1 Introduction

In accordance with the Reliability Assurance Agreement, each Load Serving Entity is obligated to pay a Locational Reliability Charge for each Zone in which it serves load based on the Daily Unforced Capacity Obligation of its loads in such Zone. An LSE may offset the Locational Reliability charge for a Delivery Year, in whole or in part, by: (a) Self-Supply of Capacity Resources in the Base Residual Auction; (b) offering and clearing Capacity Resources in the Base Residual Auction or, if one is conducted, a Second Incremental Auction (but only to the extent of the additional resources allocated through such Second Incremental Auction to such Zone); (c) obtaining certification of load reduction capability as ILR three months prior to the start of the Delivery Year; (d) receiving payments from Capacity Transfer Rights; or (e) offering and clearing Qualifying Transmission Upgrades in the Base Residual Auction.

### 5.2 Nomination of Self Supplied Capacity Resources

A Capacity Market Seller, including a Load Serving Entity, may designate a Capacity Resource as Self-Supply for a Delivery year by submitting a Sell Offer for such resource in the Base Residual Auction in accordance with the procedure and time schedule set forth in the PJM Manuals, except that the LSE shall indicate its intent in the Sell Offer to commit the resource regardless of clearing price. Upon receipt of a Self-Supply Sell Offer, the Office of the Interconnection will verify that the designated Capacity Resource is available, in accordance with Section 5.6, and will treat such Capacity Resource as committed in the clearing process of the Base Residual Auction for such Delivery Year. To address capacity obligation quantity uncertainty associated with the Variable Resource Requirement Curve, a Load Serving Entity may submit a Sell Offer with a contingent designation of a portion of its Capacity Resources as either Self-Supply (to the extent required to meet a portion (as specified by the LSE) of the LSE's peak load forecast in each transmission zone) or as subject to an offer price (to the extent not so required), in accordance with the PJM Manuals.

### 5.3 Commitment of Contractually Purchased Capacity Resources

A Load Serving Entity that has purchased the right to the capacity output of a generation resource and desires to commit such right as a Capacity Resource for a Delivery Year shall be considered a Capacity Market Seller. Such an LSE must submit a Sell Offer in the Base Residual Auction for such Delivery Year, in accordance with the procedure and time schedule set forth in the PJM Manuals. In such Sell Offer, the Capacity Resource offered by the LSE may be submitted as Self-Supply or with an offer price.

#### 5.4 Reliability Pricing Model Auctions

The Office of the Interconnection shall conduct the following Reliability Pricing Model Auctions:

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#### a) Base Residual Auction.

PJM shall conduct for each Delivery Year a Base Residual Auction to secure commitments of Capacity Resources as needed to satisfy the portion of the Final RTO Unforced Capacity Obligation not satisfied through Self-Supply of Capacity Resources for such Delivery Year. All Self-Supply Capacity Resources must be offered in the Base Residual Auction. As set forth in section 6.6, all other Capacity Resources, and certain other existing generation resources, must be offered in the Base Residual Auction. Except during the Transition Period, the Base Residual Auction shall be conducted in the month of May that is three years prior to the start of such Delivery Year. The cost of payments to Capacity Market Sellers for Capacity Resources that clear such auction shall be collected from Load Serving Entities through the Locational Reliability Charge during such Delivery Year.

### b) First Incremental Auction.

PJM shall conduct for each Delivery Year a First Incremental Auction to allow Capacity Market Sellers that committed Capacity Resources in the Base Residual Auction for such Delivery Year to submit Buy Bids for replacement Capacity Resources. The need to purchase replacement Capacity Resources may arise from resource retirement, resource cancellation or construction delay, resource derating, EFORd increase, a decrease in the Nominated Demand Resource Value of a Planned Demand Resource, delay or cancellation of a Qualifying Transmission Upgrade, or similar occurrences. The cost of payments to Capacity Market Sellers for Capacity Resources that clear such auction shall be collected from Capacity Market Buyers that purchase replacement Capacity Resources in such auction. Except during the Transition Period, the First Incremental Auction shall be conducted in the month of June that is twenty-three months prior to the start of the Delivery Year.

#### c) Second Incremental Auction.

PJM shall conduct for any Delivery Year a Second Incremental Auction if necessary to secure additional commitments of Capacity Resources to satisfy an increase in the Unforced Capacity Obligation of the PJM Region due to a load forecast increase. Such auction shall be conducted only if the Final RTO Unforced Capacity Obligation less the Forecast ILR Obligation, as calculated in accordance with the PJM Manuals immediately prior to the conduct of the Second Incremental Auction, is 100 megawatts or greater than the quantity of megawatts cleared in the Base Residual Auction for such Delivery Year. If held, the Second Incremental Auction shall be conducted in the month of April that is thirteen months prior to the start of such Delivery Year. The cost of payments to Market Sellers for Capacity Resources cleared in such auction shall be collected from Load Serving Entities through an adjustment to the Locational Reliability Charge for such Delivery Year.

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#### **d**) Third Incremental Auction.

PJM shall conduct for each Delivery Year a Third Incremental Auction to allow Capacity Market Sellers that committed Capacity Resources in the Base Residual Auction, First Incremental auction, or Second Incremental Auction for such Delivery Year to submit Buy Bids for replacement Capacity Resources. The need to purchase replacement Capacity Resources may arise from resource retirement, resource cancellation or construction delay, resource derating, EFORd increase, a decrease in the Nominated Demand Resource Value of a Planned Demand Resource, delay or cancellation of a Qualifying Transmission Upgrade, or similar occurrences. The cost of payments to Capacity Market Sellers for Capacity Resources that clear such auction shall be collected from Capacity Market Buyers that purchase replacement Capacity Resources in such auction. Except during the Transition Period, the Third Incremental Auction shall be conducted in the month of January that is four months prior to the start of such Delivery Year.

#### 5.5 Eligibility for Participation in RPM Auctions

A Capacity Market Seller may submit a Sell Offer for a Capacity Resource in a Base Residual or Incremental Auction only if such seller owns or has the contractual authority to control the output or load reduction capability of such resource and has not transferred such authority to another entity. Capacity Resources must satisfy the capability and deliverability requirements of Schedules 9 and 10 of the PJM Reliability Assurance Agreement, and, as applicable, the requirements for Demand Resources in Schedule 6 of such agreement.

#### 5.6 **Sell Offers**

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

#### 5.6.1 **Specifications**

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

- Identification of the Generation Capacity Resource or Demand Resource on which such Sell Offer is based:
- The period of time during the Delivery Year that such Sell Offer is applicable; provided, however, that a Generation Capacity Resource located inside the PJM Region must offer its Unforced Capacity into the auction in accordance with section 6.6 of this Attachment.

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- c) Minimum and maximum megawatt quantity of installed capacity that the Capacity Market Seller is willing to offer (notwithstanding such specification, the product offered shall be Unforced Capacity), or designate as Self-Supply, from a Generation Capacity Resource;
  - i) Price, in dollars and cents per megawatt-day, that will be accepted by the Capacity Market Seller for the megawatt quantity of Unforced Capacity offered from such Generation Capacity Resource.
  - ii) The Sell Offer may take the form of offer segments with varying price-quantity pairs for varying output levels from the underlying resource, but may not take the form of an offer curve with nonzero slope. If the Capacity Market Seller wishes to include an EFORd Offer Segment, then the Sell Offer shall indicate the quantity level corresponding to the Base Offer Segment.
  - d) EFORd of each Generation Capacity Resource offered.
    - i) If a Capacity Market Seller is offering such resource in a Base Residual Auction, First Incremental Auction, or Second Incremental Auction, the Capacity Market Seller shall specify the EFORd to apply to the offer.
    - ii) If a Capacity Market Seller is committing the resource as Self-Supply, the Capacity Market Seller shall specify the EFORd to apply to the commitment.
    - iii) The EFORd applied to the Third Incremental Auction will be the final EFORd established by the Office of the Interconnection six (6) months prior to the Delivery Year, based on the actual EFORd in the PJM Region during the 12-month period ending September 30 that last precedes such Delivery Year.

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- e) The Nominated Demand Resource Value for each Demand Resource offered. The Office of the Interconnection shall convert such value to an Unforced Capacity basis by multiplying such value by the DR Factor times the Forecast Pool Requirement.
- f) The price at which the Capacity Market Seller is willing to sell a Demand Resource, which must be expressed as greater than or equal to a stated Capacity Resource Clearing Price.
- g) For a Qualifying Transmission Upgrade, the Sell Offer shall identify such upgrade, and the Office of the Interconnection shall determine and certify the increase in CETL provided by such upgrade. The Capacity Market Seller may offer the upgrade with an associated increase in CETL to an LDA in accordance with such certification, including an offer price that will be accepted by the Capacity Market Seller, stated in dollars and cents per megawatt-day as a price difference between a Capacity Resource located outside such an LDA and a Capacity Resource located inside such LDA; and the increase in CETL into such LDA to be provided by such Qualifying Transmission Upgrade, as certified by the Office of the Interconnection.

### 5.6.2 Compliance with PJM Credit Policy

Capacity Market Sellers shall comply with the provisions of the PJM Credit Policy as set forth in Attachment Q to this Tariff, including the provisions specific to the Reliability Pricing Model, prior to submission of Sell Offers in any Reliability Pricing Model Auction.

#### 5.6.3 Demand Resources

A Sell Offer for a Delivery Year that is based on an existing Demand Resource located in an LDA that fails the Market Structure Screen for such Delivery Year pursuant to section 6 shall not be eligible to set the clearing price in any Base Residual or Incremental Auction.

### 5.6.4 Qualifying Transmission Upgrades

A Qualifying Transmission Upgrade may not be the subject of any Sell Offer in a Base Residual Auction unless it has been approved by the Office of the Interconnection, including certification of the increase in Import Capability to be provided by such Qualifying Transmission Upgrade, no later than 45 days prior to such Base Residual Auction. No such approval shall be granted unless, at a minimum, a Facilities Study Agreement has been executed with respect to such upgrade, and such upgrade conforms to all applicable standards of the Regional Transmission Expansion Plan process.

#### 5.6.5 Market-based Sell Offers

Subject to section 6, a Market Seller authorized by FERC to sell electric generating capacity at market-based prices, or that is not required to have such authorization, may submit Sell Offers that specify market-based prices in any Base Residual Auction or Incremental Auction.

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### Availability of Capacity Resources for Sale

- The Office of the Interconnection shall determine the maximum quantity of megawatts of Unforced Capacity each Market Seller may offer in any Base Residual Auction or Incremental Auction, through verification of the availability of megawatts of Unforced Capacity from: (i) Capacity Resources owned by or under contract to the Market Seller, including Capacity Resources obtained through bilateral contract; (ii) the results of prior Reliability Pricing Model Auctions, if any, for such Delivery Year,; and (iii) such other information as may be available to the Office of the Interconnection. The Office of the Interconnection shall reject Sell Offers or portions of Sell Offers for Capacity Resources determined by it not to be available for salc.
- The Office of the Interconnection shall determine the maximum amount of Capacity Resources available for sale in a Base Residual Auction or Incremental Auction as of the beginning of the period during which Buy Bids and Sell Offers are accepted for each market, as applicable, in accordance with the time schedule set forth in the PJM Manuals. To enable the Office of the Interconnection to make this determination, no bilateral transactions for Capacity Resources applicable to the period covered by an auction will be processed from the beginning of the period for submission of Sell Offers and Buy Bids, as appropriate, for that auction until completion of the clearing determination for that market. Processing of such bilateral transactions will reconvene once clearing for that auction is completed.
- In order for a bilateral transaction for the purchase and sale of a Capacity Resource to be processed by the Office of the Interconnection, both parties to the transaction must notify the Office of the Interconnection of the transfer of the Capacity Resource from the seller to the buyer in accordance with procedures established by the Office of the Interconnection and set forth in the PJM Manuals.

#### 5.7 **Buv Bids**

Buy Bids shall be submitted only in a First Incremental Auction or Third Incremental Auction. Buy Bids shall specify, as appropriate:

- The quantity of Unforced Capacity desired, in increments of 0.1 megawatt; a)
- The maximum price, in dollars and cents per megawatt per day, that will be paid b) by the buyer for the megawatt quantity of Unforced Capacity desired; and
- The desired LDA for a replacement Capacity Resource. In the event of delay or cancellation of a Qualifying Transmission Upgrade, the Buy Bid shall specify Capacity Resources in the LDA for which such Qualifying Transmission Upgrade was to increase CETL.

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## 5.8 Submission of Sell Offers and Buy Bids

Submission of Sell Offers and Buy Bids shall be subject to the following requirements:

- a) A Sell Offer or Buy Bid that fails to specify a positive megawatt quantity shall be rejected by the Office of the Interconnection.
- b) A Buy Bid that fails to specify price shall be rejected by the Office of the Interconnection. A Sell Offer that fails to either designate such offer as self-scheduled or to specify an offer price shall be rejected by the Office of the Interconnection
- c) All Sell Offers and Buy Bids must be received by the Office of the Interconnection during a specified period, as determined by the Office of the Interconnection, in accordance with the PJM Manuals. A Sell Offer or Buy Bid may be withdrawn by a notification of withdrawal received by the Office of the Interconnection at any time during the foregoing period, but may not be withdrawn after such period.
- d) Sell Offers or Buy Bids shall be submitted or withdrawn via the Internet site designated by the Office of the Interconnection; provided, however, that if the Internet site cannot be accessed at any time during the period specified for the applicable auction, a Sell Offer or Buy Bid may be submitted or withdrawn by electronic mail transmitted to the e-mail address, or faxed to the fax number, specified by the Office of the Interconnection in the PJM Manuals.
- e) Sell Offers must be based on the Capacity Market Seller's Capacity Resource position at the opening of the auction's bidding window.
- f) The Office of the Interconnection shall accept a Sell Offer only up to the megawatt amount of installed capacity of Capacity Resources owned or controlled by such Capacity Market Seller that has not previously been committed for the applicable Delivery Year.
- g) No Sell Offer shall be accepted from an FRR Entity unless it meets the requirements applicable to such offers under Schedule 8.1 of the Reliability Assurance Agreement.

#### 5.9 Time Standard

All deadlines for the submission or withdrawal of Sell Offers or Buy Bids, or for other purposes specified in this Attachment, shall be determined by the prevailing time observed in the Eastern Time zone.

## 5.10 Auction Clearing Requirements

The Office of the Interconnection shall clear each Base Residual Auction and Incremental Auction for a Delivery Year in accordance with the following:

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### a) Variable Resource Requirement Curve

The Office of the Interconnection shall determine Variable Resource Requirement Curves for the PJM Region and for such Locational Deliverability Areas as determined appropriate in accordance with subsection (a)(iii) for such Delivery Year to establish the level of Capacity Resources that will provide an acceptable level of reliability consistent with the Reliability Principles and Standards. It is recognized that the variable resource requirement reflected in the Variable Resource Requirement Curve can result in an optimized auction clearing in which the level of Capacity Resources committed for a Delivery Year exceeds the PJM Region Reliability Requirement (less the Forecast RTO ILR Obligation) or Locational Deliverability Area Reliability Requirement (less the Forecast Zonal ILR Obligation for the Zones associated with such LDA) for such Delivery Year.

- i) Methodology to Establish the Variable Resource Requirement Curve
  Prior to the Base Residual Auction, in accordance with the schedule in the
  PJM Manuals, the Office of the Interconnection shall establish the Variable
  Resource Requirement Curve for the PJM Region as follows:
  - Each Variable Resource Requirement Curve shall be plotted on a graph on which Unforced Capacity is on the x-axis and price is on the y-axis;
  - The Variable Resource Requirement Curve for the PJM Region shall be plotted by first combining (i) a horizontal line from the y-axis to point (1), (ii) a straight line connecting points (1) and (2), (iii) a straight line connecting points (2) and (3), and (iv) a vertical line from point (3) to the x-axis, where,:
    - For point (1), price equals: [1.5 times (the Cost of New Entry minus the Net Energy and Ancillary Service Revenue Offset)] divided by (one minus the pool-wide average EFORd) and Unforced Capacity equals: [the PJM Region Reliability Requirement multiplied by (100% plus the approved PJM Region Installed Reserve Margin ("IRM")% minus 3%) divided by (100% plus IRM%)] minus the Forecast RTO ILR Obligation;
    - For point (2), price equals: (the Cost of New Entry minus the Net Energy and Ancillary Service Revenue Offset) divided by (one minus the pool-wide average EFORd) and Unforced Capacity equals: [the PJM Region Reliability Requirement multiplied by (100% plus IRM% plus 1%) divided by (100% plus IRM%)] minus the Forecast RTO ILR Obligation; and

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- For point (3), price equals [0.2 times (the Cost of New Entry minus the Net Energy and Ancillary Service Revenue Offset)] divided by (one minus the pool-wide average EFORd) and Unforced Capacity equals: [the PJM Region Reliability Requirement multiplied by (100% plus IRM% plus 5%) divided by (100% plus IRM%)] minus the Forecast RTO ILR Obligation;
- For any Delivery Year, the Office of the Interconnection shall establish a ii) separate Variable Resource Requirement Curve for each LDA for which the Capacity Emergency Transfer Limit is less than 1.05 times the Capacity Emergency Transfer Objective, as determined by the Office of the Interconnection in accordance with NERC and Applicable Regional Reliability Council guidelines; provided however that the Office of the Interconnection may establish a separate Variable Resource Requirement Curve for an LDA for which such margin is greater than 105% if it finds that such is required to achieve an acceptable level of reliability consistent with the Reliability Principles and Standards, in which case the Office of the Interconnection shall post such finding. such LDA, and such Variable Resource Requirement Curve on its internet site no later than the March 31 last preceding the Base Residual Auction for such Delivery Year. The same process as set forth in subsection (a)(i) shall be used to establish the Variable Resource Requirement Curve for any such LDA, except that the Locational Deliverability Area Reliability Requirement for such LDA shall be substituted for the PJM Region Reliability Requirement, and the Forecast Zonal ILR Obligation for the Zones associated with such LDA shall be substituted for the Forecast RTO ILR Obligation; provided, however, that the Forecast Zonal ILR Obligation shall not be subtracted from the LDA Reliability Requirement for such LDA if such ILR obligation previously was accounted for in determining the CETO for such LDA.
- iii) Procedure for ongoing review of Variable Resource Requirement Curve shape

At least every three years, the Office of the Interconnection shall perform a review of the shape of the Variable Resource Requirement Curve, as established by the requirements of the foregoing subsection. Such analysis shall be based on simulation of market conditions to quantify the ability of the market to invest in new Capacity Resources and to meet the applicable reliability requirements on a probabilistic basis. Based on the results of such review, PJM shall prepare a recommendation to either modify or retain the

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existing Variable Resource Requirement Curve shape. The Office of the Interconnection shall post the recommendation and shall review the recommendation through the stakeholder process to solicit stakeholder input. If a modification of the Variable Resource Requirement Curve shape is recommended, the following process shall be followed:

- A) If the Office of the Interconnection determines that the Variable Resource Requirement Curve shape should be modified, Staff of the Office of the Interconnection shall propose a new Variable Resource Requirement Curve shape on or before September 1, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.
- B) The PJM Members shall review the proposed modification to the Variable Resource Requirement Curve shape.
- C) The PJM Members shall either vote to endorse the proposed modification, to propose alternate modifications or to recommend no modification by January 1, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.
- D) The PJM Board of Managers shall consider a proposed modification to the Variable Resource Requirement Curve shape, and the Office of the Interconnection shall file any approved modified Variable Resource Requirement Curve shape with the FERC by January 31, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.

# iv). Cost of New Entry

A) During the Transition Period, and continuing thereafter unless and until changed pursuant to subsection (B) below, the Cost of New Entry for the PJM Region shall be \$ 198 per MW-Day. The Cost of New Entry for each Locational Deliverability Area shall be determined based upon the Transmission Owner zones that comprise such Locational Deliverability Area, as provided in the table below. If an LDA combines transmission zones with differing Cost of New Entry values, the lowest such value shall be used.

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Geographic Location Within the PJM Region Encompassing These Zones	Cost of New Entry in \$/MW-Day
PS, JCP&L, AE, PECO, DPL, RECO	198
PPL, BGE, PEPCO, MetEd, Penelec, APS, DQL	203
AEP, Dominion, Dayton, ComEd	202

- Following the Transition Period, the CONE shall be subject to B) adjustment in accordance with the following:
- The CONE in a CONE Area shall be evaluated for possible adjustment when there is a Net Demand for New Resources in the Base Residual Auctions over a period of three consecutive Delivery Years.
- Net Demand for New Resources means that, for any such three-year period (2) evaluated, the following formula yields a positive number:

FPR Adjusted Load Growth in Years 1 to 3 + Generation Retirements in Years 1 to 3 -Surplus Resources in Year 1 + (CETL in Year 3 - CETL in Year 1);

#### where:

FPR Adjusted Load Growth in Years 1 to 3 = (Preliminary Zonal Peak Load Forecast for all Zones in such CONE Area for the third Delivery Year in such evaluation minus the Preliminary Zonal Peak Load Forecast for such Zones for the Delivery Year immediately preceding the three Delivery Years evaluated) times the Forecast Pool Requirement (substituting in such calculation, however, a percentage figure of IRM + 1, rather than IRM);

Generation Retirements in Years 1 to 3 = all announced deactivations, pursuant to Part V of the PJM Tariff, of Existing Generation Capacity Resources in such CONE Area with an effective date of any day during the three consecutive Delivery Years evaluated, stated on an Unforced Capacity basis;

Surplus Resources in Year 1 = the total Unforced Capacity of all existing Generation Capacity Resources located in such CONE Area that are subject to the offer requirement in section 6.6 of this Attachment for the first Delivery Year evaluated, less the total Unforced Capacity corresponding to "Point Two" (as defined in section 5.10(a)(i)) on the

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Variable Resource Requirement Curves for all LDAs in such CONE Area for such Delivery Year.

CETL = Capacity Emergency Transfer Limit to the area for which there is a separate VRR curve.

- (3) For each CONE Area for which there is a Net Demand for New Resources over such three-year period, as determined pursuant to subsection (2) above, the CONE shall be adjusted (if at all) as prescribed by subsection (6) to the extent required based on the quantity of Unforced Capacity cleared in the Base Residual Auction, as set forth in subsection (5).
- (4) If a CONE Area encompasses areas with separate VRR Curves, then the procedures described in subsections (5) and (6) below will be applied separately for each area with a separate VRR Curve, and the CONE for the CONE Area will be determined as the average of the resulting CONE value for the areas, the average to be weighted by the LDA Reliability Requirement of each area. If, pursuant to subsection (7) below, a CONE Area that had been composed of areas with separate VRR Curves is divided into multiple CONE Areas, then the CONE for each new CONE Area will be reset based on the historical CONE values computed for that area, not the weighted average of the now-defunct CONE Area.
- (5) If the quantity of Unforced Capacity cleared in the Base Residual Auction for the third Delivery Year evaluated is:
  - (i) in the Equilibrium Zone, no change to CONE is required.
  - (ii) above the Equilibrium Zone, CONE shall be decreased in accordance with subsection (e); provided, however, that no change to CONE is required if the excess of Unforced Capacity relative to the Equilibrium Zone for the third Delivery Year evaluated is less than or equal to the excess of Unforced Capacity relative to the Equilibrium Zone for the first Delivery Year evaluated.
  - (iii) below the Equilibrium Zone, CONE shall be increased in accordance with subsection (6); provided, however, if CONE was increased as a result of Unforced Capacity clearing below the Equilibrium Zone in a CONE adjustment evaluation hereunder for such CONE Area for the immediately preceding Delivery Year, then CONE shall be increased only if the shortage of Unforced Capacity relative to the Equilibrium Zone for the third Delivery Year evaluated is greater than or equal to the shortage of Unforced Capacity relative to the Equilibrium Zone for the first Delivery Year evaluated.
- (6) In any case where an increase or decrease to CONE in a CONE Area is required by the above provisions:
  - (i) the then-current value of the Cost of New Entry for such CONE Area shall be compared against the Empirical CONE for such area,

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#### where:

Empirical CONE = the weighted average for all LDAs in the CONE Area (weighted by load in such LDAs) of: (i) the average Capacity Resource Clearing Price in each such LDA determined in the Base Residual Auctions for such three Delivery Years; plus (ii) the average of the Net Energy and Ancillary Market Revenue Offsets used in the Variable Resource Requirement Curve for such LDA for such three years.

- (ii) if an increase is required, CONE shall be increased by the lesser of (a) 0.50 times the positive difference between Empirical CONE and CONE; and (b) 0.10 times CONE.
- (iii) where a decrease is required, CONE shall be decreased by the lesser of (a) 0.50 times the negative difference between Empirical CONE and CONE; and (b) 0.10 times CONE.
- (7) Any LDA for which a separate VRR Curve has been established for the Base Residual Auctions for each of three consecutive Delivery Years shall be evaluated under the provisions of this section. If the result of such evaluation is that the CONE calculated for such LDA would differ by at least 10 percent from the CONE then applicable to such LDA, then such LDA shall be established as a CONE Area, with a Cost of New Entry adjusted based on the Cost of New Entry computed over the prior three Delivery Years for that LDA.
  - v) Net Energy and Ancillary Services Revenue Offset
    - A) The Office of the Interconnection shall determine the Net Energy and Ancillary Services Revenue Offset each year for the PJM Region as (A) the annual average of the revenues that would have been received by the Reference Resource during a period of consecutive calendar years (as specified in (B) below) preceding the time of the determination, based on (1) the heat rate and other characteristics of such Reference Resource; (2) fuel prices reported during such period at an appropriate pricing point for the PJM Region, with a fuel transmission adder appropriate for such region, as set forth in the PJM Manuals, assumed variable operation and maintenance expenses for such resource of \$5.00 per MWh, and actual PJM hourly average Locational Marginal Prices recorded in the PJM Region during such period; and (3) an assumption that the Reference Resource would be dispatched on a Peak-Hour Dispatch basis; plus (B) ancillary service revenues of \$2,254 per MW-year.

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- B) For each of the first three Delivery Years of the Transition Period, such determination shall be based on the six consecutive calendar years preceding the relevant BRA. For any subsequent Delivery Year, such determination shall be based on the three consecutive calendar years preceding the relevant BRA.
- C) The Office of the Interconnection also shall determine a Net Energy and Ancillary Market Revenue Offset each year for each subregion of the PJM Region for which the Cost of New Entry is determined, as identified above, using the same procedures and methods as set forth in the previous paragraph; provided, however, that: (1) the average hourly LMPs for the transmission zone in which such resource was assumed to be installed for purposes of the CONE estimate (as specified in the PJM Manuals) shall be used in place of the PJM Region-average hourly LMPs; (2) if such sub-region was not integrated into the PJM Region for the entire applicable period, then the offset shall be calculated using only those whole calendar years during which the sub-region was integrated; ; and (3) a posted fuel pricing point in such sub-region, if available, and (if such pricing point is not available) a fuel transmission adder appropriate to each assumed Cost of New Entry location from an appropriate PJM Region pricing point shall be used for each such sub-region.

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- vi). Process for Establishing Parameters of Variable Resource Requirement Curve
  - A) The parameters of the Variable Resource Requirement Curve will be established prior to the conduct of the Base Residual Auction for a Delivery Year and will be used for such Base Residual Auction.
  - B) The Office of the Interconnection shall determine the PJM Region Reliability Requirement and the Locational Deliverability Area Reliability Requirement for each Locational Deliverability Area for which a Variable Resource Requirement Curve has been established for such Base Residual Auction on or before February 1, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values will be applied, in accordance with the Reliability Assurance Agreement.
  - C) At least every three years, the Office of the Interconnection shall review the calculation of the Cost of New Entry for the PJM Region and for each Zone.
    - 1) If the Office of the Interconnection determines that the Cost of New Entry values should be modified, Staff of the Office of the Interconnection shall propose new Cost of New Entry values on or before September 1, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.
    - 2) The PJM Members shall review the proposed values.
    - The PJM Members shall either vote to endorse the proposed values or propose alternate values by January 1, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.
    - 4) The PJM Board of Managers shall consider Cost of New Entry values, and the Office of the Interconnection shall file any approved modified Cost of New Entry values with the FERC by January 31, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.
  - D) At least every three years, the Office of the Interconnection shall review the methodology set forth in this Attachment for determining the Net Energy and Ancillary Services Revenue Offset for the PJM Region and for each Zone.

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- 1) If the Office of the Interconnection determines that the Net Energy and Ancillary Services Revenue Offset methodology should be modified, Staff of the Office of the Interconnection shall propose a new Net Energy and Ancillary Services Revenue Offset methodology on or before September 1, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new methodology would be applied.
- 2) The PJM Members shall review the proposed methodology.
- The PJM Members shall either vote to endorse the proposed methodology or propose an alternate methodology by January 1, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new methodology would be applied.
- The PJM Board of Managers shall consider the Net Revenue Offset methodology, and the Office of the Interconnection shall file any approved modified Net Energy and Ancillary Services Revenue Offset values with the FERC by January 31, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.

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#### Locational Requirements b)

The Office of Interconnection shall establish locational requirements prior to the Base Residual Auction to quantify the amount of Unforced Capacity that must be committed in each Locational Deliverability Area, in accordance with the PJM Reliability Assurance Agreement.

> Preliminary PJM Region Peak Load Forecast for the Delivery Year c)

The Office of the Interconnection shall establish the Preliminary PJM Region Load Forecast for the Delivery Year in accordance with the PJM Manuals by February 1, prior to the conduct of the Base Residual Auction for such Delivery Year.

> Final PJM Region Peak Load Forecast for Second Incremental Auction d)

The Office of the Interconnection shall establish the Final PJM Region Peak Load Forecast for a Delivery Year in accordance with the PJM Manuals by February 28, prior to the conduct of the Second Incremental Auction for such Delivery Year.

#### Posting of Information Relevant to the RPM Auctions 5.11

- In accordance with the schedule provided in the PJM Manuals, PJM will post the following information for a Delivery Year prior to conducting the Base Residual Auction for such Delivery Year:
  - The Preliminary PJM Region Peak Load Forecast (for the PJM i) Region, and allocated to each Zone) and the ILR Forecast by Locational Deliverability Area;
  - The PJM Region Installed Reserve Margin, the Pool-wide average EFORd, and the Forecast Pool Requirement;
  - iii) The Demand Resource Factor;
  - iv) The PJM Region Reliability Requirement, and the Variable Resource Requirement Curve for the PJM Region;
  - The Locational Deliverability Area Reliability Requirement and the Variable Resource Requirement Curve for each Locational Deliverability Area for which a separate Variable Resource Requirement Curve has been established for such Base Residual Auction, and the CETO and CETL values for all Locational Deliverability Areas;
  - vi) Any Transmission Upgrades that are expected to be in service for such Delivery Year;
  - vii) The bidding window time schedule for each auction to be conducted for such Delivery Year

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