Appendix A: Behind the Meter Generation Business Rules

Definition and Purpose of Behind-the-Meter Generation (BTMG)

1. The purpose of these rules is to permit market participants operating Behind-the-Meter Generation (BTMG) to receive the associated benefits. These benefits are recognized by allowing such generation to net for the purposes of calculating transmission, capacity, ancillary services, and administrative fee charges.

2. The netting rules for BTMG are set forth in the PJM Open Access Transmission Tariff ("PJM Tariff"), the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. ("Operating Agreement"), and the Reliability Assurance Agreement Among Load Serving Entities in the PJM Region ("RAA"). These documents filed with the Federal Energy Regulatory Commission will take precedence in the event of any conflict or ambiguity between these rules and the filed documents.

Eligibility for BTM Netting

3. These rules apply to BTMG used by end-use customers, municipal electric systems, electric cooperatives, and electric distribution companies to serve load. The load must be located at the same electrical location as the BTMG, such that no transmission or distribution facilities are utilized to transmit energy from the BTMG to the load. An exception to the prohibition on use of distribution facilities rule is allowed, in cases where permission to use the requisite distribution facilities has been obtained from the owner, lessee, or operator of such facilities. Such permission must be submitted in writing to PJM from the owner, lessee or operator of such distribution facilities.

4. BTMG netting is only available to entities that have Network Integration Transmission Service agreements with PJM.

5. These business rules do not supersede any elements of existing retail service agreements or standby service agreements between an entity and its Load Serving Entity or the electric distribution company (EDC) to which the associated load is connected.

BTM Netting – General Rules

6. BTMG does not include at any time, any portion of a generating unit's capacity that is designated as a Generation Capacity Resource; or 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. For more information regarding a BTMG unit designating capability as Generation Capacity Resource and/or Energy Resource, see the "Designating Capability as Generation Capacity Resource and/or Energy Resource" section below.

7. A Generation Owner~~s~~ shall not be eligible to receive payments, pursuant to Schedule 2 of the PJM Tariff, for reactive supply and voltage control service for the portion~~s~~ of a generating unit's capability that changes to BTMG status.~~upon becoming a BTM Generator.~~ A Generation Owner~~s~~ subject to this rule shall submit a FERC filing to amend its cost-based revenue requirement for supplying reactive supply and voltage control service under Schedule 2 to account for the status change to BTMG at least 90 days prior to the effective date of such a status change.~~cooperate with PJM in making any regulatory filings that may be required to implement this rule.~~

8. The need for metering for small BTMG will be treated on a case-by-case basis, depending on local operational security needs. For the purposes of this rule, small BTMG shall be individual generating units that are less than 10 MW, or multiple generating units that are collectively less

than 10 MW. Generally, these units will not require metering for operational security purposes. Rules for metering are detailed in the PJM Manual for Generator Operational Requirements (M-14D).

9. BTMG that is 10 MW or greater (or has been identified as requiring metering for operational security reasons) must have both revenue metering and telemetering for operational security purposes. Single unit small BTMG generators that collectively total more than 10 MW, may be aggregated behind the meter and metered as a single unit to meet this requirement should PJM require metering for the aggregate generation. Rules for metering are detailed in the PJM Manual for Generator Operational Requirements (M-14D). For telemetry and metering to be communicated to PJM the unit must be modeled in the PJM Energy Management System. For modeling rules to fulfill this requirement, please refer to Manual 3A, Section 1.2.1.

10. BTMG will be recognized in PJM transmission and generation adequacy planning models. Load and generation will be modeled separately where practicable.

11. BTMG may be included in a Public Distribution Microgrid. A BTMG facility that has capability that is designated as a Generation Capacity Resource and/or Energy Resource may be the Public Distribution Microgrid Generator, the PJM Generating Facility that is capable of generating while both connected to and while islanded from the broader grid. The Public Distribution Microgrid business rules in Manual 14D, Appendix B apply to the Public Distribution Microgrid Generator.

Designating Capability as Generation Capacity Resource and/or Energy Resource

Process to Designate Capability and Change Status

12. If multiple generation units are located behind the meter, each unit ~~can be~~ may have capability designated as either a Generation Capacity Resource and/or Energy Resource ~~or as BTMG~~ on a whole unit specific basis or on a partial unit specific basis. In some cases, a single aggregate unit representing multiple generation units located behind the meter, may have capability designated as a Generation Capacity Resource and/or Energy Resource.

13. For a BTMG facility to be designated in whole or in part as a Generation Capacity Resource and/or Energy Resource, a Generation Interconnection Customer must submit a New Services Request in accordance with PJM Manual 14A, New Services Request Process and PJM Manual M14G, Generation Interconnection Requests.

14. A change from BTMG status to Generation Capacity Resource and/or Energy Resource status represents an increase in the MW of capability designated as a Generation Capacity Resource and/or Energy Resource. An increase in the MW of capability designated requires the Generation Interconnection Customer to submit a New Services Request. The executed service agreement (e.g., Interconnection Service Agreement, Wholesale Market Participation Agreement, etc.) indicates the Maximum Facility Output (MFO) of the generating unit, and, of the MFO, the MW of capability designated for capacity (i.e., Capacity Interconnection Rights) and the MW of capability designated for energy.

~~10.~~15. A change to BTMG status from Generation Capacity Resource and/or Energy Resource status represents a decrease in the MW of capability designated as a Generation Capacity Resource and/or Energy Resource. A decrease in the MW of capability designated as a Generation Capacity Resource requires the Capacity Market Seller to adhere to the Removal of Generation Capacity Resource Status rules in PJM Manual 18, Section 5.4.7 and OATT, Attachment DD, Section 6.6(g) for the decrease in the MW of capability designated. A decrease in the MW of capability designated as an Energy Resource requires a necessary study request per PJM Manual 14G, Section 4.5.

16. A ~~party~~Generation Interconnection Customer may request to change all or a portion of a unit's capability from Generation Capacity Resource and/or Energy Resource status to BTMG status, or from BTMG status to Generation Capacity Resource and/or Energy Resource status (provided the generator has met the applicable requirements for Capacity Resource status and/or Energy Resource status)~~., but cannot be used for both purposes simultaneously for a designated portion of a unit's capability.~~If a MW of capability is designated as Generation Capacity Resource such MW of capability is not able to net against the load at any time. Any portion of a unit that has been ~~qualified~~ designated as a Generation Capacity Resource is subject to the same requirements as any other PJM Generation Capacity Resource. If a MW of capability is designated as Energy-only MW, such capability may be used to net against the load or may be used as Energy-only Resource, but cannot be used for both purposes simultaneously in real-time.

17. A change from Generation Capacity Resource and/or Energy Resource status to BTMG status requires an amendment or termination of the relevant service agreement (e.g., Interconnection Service Agreement, Wholesale Market Participation Agreement, etc.). The service agreement is to be amended if the unit is to remain a partial BTMG unit after the status change. A partial BTMG unit is a unit that still has an amount of capability that is designated as a Generation Capacity Resource and/or Energy Resource. The service agreement is to be terminated if the unit desires to be a full BTMG unit. A full BTMG unit is a unit that has no capability that is designated as a Generation Capacity Resource and/or Energy Resource and does not participate in PJM Markets as a Generation Capacity Resource and/or Energy Resource.

18. A request to change from Generation Capacity Resource and/or Energy Resource status to BTMG status must be provided to PJM sufficiently in advance of the requested effective date of the status change to adhere to the Removal of Generation Capacity Resource Status rules in PJM Manual 18, Section 4.5.7 and OATT, Attachment DD, Section 6.6(g) and allow time for a necessary study (if required), FERC filing(s), and any necessary resource modeling changes in PJM tools. In addition, notice of termination or request to amend the applicable service agreement must comply with the terms and conditions of such service agreement.

19. Any change to the relevant service agreement is not effective until PJM receives a final FERC Order (with a specified effective date therein) for a non-conforming agreement or until the agreement (with a specified effective date therein) is included in PJM's Electric Quarterly Report.

20. To be assured that a unit addition, revision, or deletion is included in an EMS quarterly model update that corresponds to when the change from/to BTMG status is to be effective, all technical modeling information must be submitted to PJM's Model Management Department by the published data close deadlines posted on the DMS website at https://www.pjm.com/committees-and-groups/subcommittees/dms.aspx

21. Because of the number of procedural requirements associated with changing to or from BTMG status, such changes shall be limited to once per year in accordance with the schedule set forth below.

Impact of Status Change to LSE Load Values

~~11.~~22. A Generation Capacity Resource that changes status to Non-Retail BTMG, or a new generator that ~~requests~~reports as Non-Retail BTMG ~~status~~in the Capacity Exchange system will be able to net its full installed capacity value against the actual gross load for the wholesale area in the determination of an LSE's Network Service Peak Load (NSPL)for the first calendar year the BTMG status is in effect, ~~for transmission~~ and in the determination of an LSE's Obligation Peak Load (OPL) for the first Planning Period ~~for capacity~~the BTMG status is in effect. In order to net the full installed capacity value, an LSE must request a NSPL or OPL adjustment for the wholesale area in which unit resides. The netting value for all succeeding years will be based on actual generator performance over the ~~5 CP and 1 CP days~~ coincident peak hour(s) used in the determination of an LSE's network service peak load and obligation peak load.

23. An LSE's ~~R~~requests for an adjustment to Network Service Peak Load (NSPL) for the wholesale area in which the Non-Retail BTMG unit resides for the first calendar year the unit is in BTMG status ~~BTMG changes for transmission charges, black start service, and reactive service~~ must be submitted via email to PJM at rpm_hotline@pjm.com ~~received by PJM~~ by October 31 prior to such calendar year. If the request is for a Generation Capacity Resource changing status to Non-Retail BTMG, the following criteria must be satisfied: (1) unit was in Generation Capacity Resource status during the zonal 1 CP hour and (2) the effective date of the status change must be prior to or commence with the start of the calendar year for which a NSPL adjustment is being sought. The amount of NSPL adjustment requested may not exceed the installed capacity value of Generation Capacity Resource in the Capacity Exchange system prior to the status change. If the request is for a new Non-Retail BTMG, the following criteria must be satisfied: (1) the new unit was not in-service during the zonal 1CP hour; (2) the new unit is in-service by the October 31 deadline or has a scheduled in-service date during November 1 to November 30; and (3) an Officer Certification form attesting to the actual or scheduled in-service date of the new unit is submitted with the request~~. If the request is for a new BTMG with a scheduled in-service date from November 1 to November 30, documentation to support the in- service date must also be received by PJM by October 31.~~ The amount of NSPL adjustment requested may not exceed the summer rated installed capacity value of the new Non-Retail BTMG unit reported in the Capacity Exchange system. The amount of NSPL adjustment requested may be capped if the LSE's resultant NSPL for the wholesale area will become negative as a result of the adjustment request. PJM will coordinate with the relevant EDC to process the LSE's NSPL adjustment request and finalize the approved amount of NSPL adjustment. The ~~related~~approved Network Service Peak Load adjustment will become effective the following January 1~~. The change~~and shall remain in effect for a period no less than one calendar year.

~~12.~~24. The zonal metered peak for the 1 CP hour (zonal Network Service Peak Load) will be adjusted downward by the total amount of approved NSPL adjustments in the zone.

25. An LSE's ~~R~~requests for an adjustment to obligation peak load for the wholesale area in which the Non-Retail BTMG unit resides for the first Planning Period the unit is in BTMG status ~~BTMG changes for capacity obligations~~ must be submitted by email to PJM at rpm_hotline@pjm.com ~~received by PJM~~ by October 31 prior to such Planning Period. If the request is for a Generation Capacity Resource changing status to Non-Retail BTMG, the following criteria must be satisfied: (1) unit was in Generation Capacity Resource status during the RTO 5CP hours and (2) the effective date of the status change must be prior to or commence with the start of the Planning Period for which a OPL adjustment is being sought. The amount of OPL adjustment requested may not exceed the installed capacity value of Generation Capacity Resource in the Capacity Exchange system prior to the status change. If the request is for a new Non-Retail BTMG, the following criteria must be satisfied; (1) the new unit's in-service date is after the RTO 5 CP hours; (2) the new unit was in-service by the October 31 deadline or has a scheduled in-service

date during November 1 to November 30; and (3) an Officer Certification form attesting to the actual or scheduled in-service date of the new unit is submitted with the request. ~~If the request is for a new~~ Non-Retail ~~BTMG with a scheduled in-service date from November 1 to November 30, documentation to support the in-service date must also be received by PJM by October 31.~~ The amount of OPL adjustment requested may not exceed the summer rated installed capacity value of the new Non-Retail BTMG unit reported in the Capacity Exchange system. The amount of OPL adjustment requested may be capped if the LSE's resultant OPL will become negative as a result of the adjustment request. PJM will coordinate with the relevant EDC to process the LSE's OPL adjustment request and finalize the approved amount of OPL adjustment. The ~~related~~ approved Obligation Peak Load adjustment will become effective the following June 1~~. The change~~and shall remain in effect for a period no less than one Planning Period.

26. The zonal weather normalized summer peak will be adjusted downward by the total amount of approved OPL adjustments in the zone. The zonal metered peaks for each of the RTO 5 CP hours will be adjusted downward by the total amount of approved OPL adjustments in the zone.

27. EDCs that are responsible for determining LSE NSPL or OPL values shall have the ability to view data reported for Non-Retail BTMG units in their relevant zone in the Capacity Exchange system to facilitate the timely processing of NSPL and OPL adjustments for new Non-Retail BTMG units.

28. An approved adjustment to NSPL or OPL will result in the expected performance level of the Non-Retail BTMG unit for the November 1 through October 31 compliance period to be applicable once the Non-Retail BTMG status is effective. The expected performance level of the Non-Retail BTMG will be set to the approved NSPL/OPL adjustment amount.

~~16. Requests for BTMG changes for energy-based ancillary service charges (i.e., those ancillary services charged on a MWh basis such as regulation, spinning and operating reserves) and for administrative fee charges can be made anytime. The change will become effective on the first of the month following PJM's communication that all logistical modifications (as may be required, for example, to metering or billing/settlement records) have been completed.~~

~~13.~~29. The effective date of a status change from Generation Capacity Resource and/or Energy Resource status to BTMG status or from BTMG status to Generation Capacity Resource and/or Energy Resource status shall only occur on the first of a month. All resource modeling changes in PJM tools must be completed to effectuate such a status change. The real-time load reported in Inschedule and real-time generation output reported in PowerMeter shall be reported by EDC, LSE, or generation owner such that it accurately reflects the change in status to BTMG status or from BTMG status for relevant MWs of capability as of the effective date of the status change. The change to BTMG status or from BTMG status shall remain in effect for a period no less than 12 months from the month the change becomes effective.

~~14.~~30. Once the status change from Generation Capacity Resource and/or Energy Resource to BTMG status is effective, the generation output from the operating BTMG unit is allowed to reduce the actual gross load at a retail end-use customer site or at the wholesale area level (in the case of Non-Retail BTMG) and a net load (gross load minus operating BTMG, not to be less than zero) is able to be used in the determination of LSE's charges for energy, ancillary services, capacity, transmission, and administrative fee charges in accordance with business rule #40. ~~If a generator is granted BTMG status for one purpose (such as capacity), it must become BTMG for all other purposes described in Rules 14, 15 and 16 above, and in accordance with the timetables established in those rules. A generator that changes its status to BTMG pursuant to Rules 14 and 16 will be deemed to have given notice pursuant to Rule 15 to request BTMG status for capacity obligations for the Planning Period immediately following the Planning Period in which the Rule 14 and/or 15 BTMG request was made/effective, so as to comply with the notice requirements provided in Section 2.5.2 of the PJM Tariff.~~

15.31. The timing requirements established in Rules 1423, 1525 and 16 29 are not affected by a transfer of ownership; BTMG status changes and adjustments to NSPL or OPL are only permitted in accordance ing towith the timetable described in Rules 1423, 1525 and 1629 above.

32. If Non-Retail BTMG is subject to a reduced netting credit as described in Rule 63 below, that generator is ineligible to change its behind the meter status until the full effect of that reduction has been fully rolled out. If a wholesale area is subject to a reduced netting due to Non-Retail BTMG unit(s) failure to perform in compliance events (as described in business rules #77-80), the relevant LSE's requested adjustment to the wholesale area's network service peak load or obligation peak load due to a Generation Capacity Resource changing status to Non-Retail BTMG status or due to a new Non-Retail BTMG shall be reduced such that the full effect of the total netting reduction amount due to Non-Retail BTMG unit(s) failure to perform still applies.

Impact of Status Change to CIRs

16.33. If the entire Generation Capacity Resource changes status to BTMG, moves behind the meter, its injection the Capacity Interconnection rRights will be treated the same as if the unit had been deactivatedremoved from Generation Capacity Resource status. Those injectionCapacity Interconnection rRights are defined in Section 230 of the PJM Tariff, generally, and Section 230.3.3 specifically with respect to rights that apply if a gGeneration Capacity rResource is removed from Generation Capacity Resource status.deactivated.

Participation in PJM Load ManagementResponse Programs

17.34. A BTMG unit may have capability participatinge in all relevant PJM demand sideLoad rResponse pPrograms (Pre-Emergency/Emergency and/or Economic Load Response)(e.g. the PJM Interchange Energy Market and the PJM Capacity Market (RPM)) under the terms and conditions in effect at the time of participation in accordance with Manual 11, Energy & Ancillary Services Market Participation, Section 10 and Manual 18, PJM Capacity Market, Section 4.3.the BTMG requests participation in the program, subject to Rule 22 below.

18. A generator may be used for Load Management (LM) credit or it can be used to net against load as a BTM generator, but cannot be used for both purposes simultaneously. The election of BTM or LM status must remain in effect for an entire planning period.

35. A BTM generator may participate in the PJM Load Response programs under the terms and conditions in effect at the time the BTM generator requests to participate in the program. A Curtailment Service Provider indicates a BTMG unit is participating as Pre-Emergency/Emergency and/or Economic Load Response by providing on-site generator data for a location through the registration process in DR Hub. Details regarding Economic registration process is in Manual 11, Section 10.2. Details regarding Pre-Emergency/Emergency registration process is in Manual 18, Section 4.3.5. A Pre-Emergency/Emergency Load Response registration is effective for a Delivery Year.

36. If a portion of the BTMG unit injects past the point of interconnection, the portion that injects may not participate as PJM Load Response; however, it may participate as a Generation Capacity Resource and/or Energy Resource (provided it has meet all the applicable requirements for Generation Capacity Resource and/or Energy Resource status).

37. A MW of output from the BTMG unit shall only be used for a single purpose for any interval. A MW may be used as BTMG that nets against the load as part of normal operations, may provide PJM Load Response, or may be used as a Generation Capacity Resource and/or Energy Resource. A MW of output may not be used for multiple purposes simultaneously.

19.38. If a BTMG unit is operated during the relevant coincident peak hours to reduce the Peak

Load Contribution (PLC) for the subsequent Delivery Year, this action will reduce the unit's ability to participate as Pre-Emergency/Emergency Load Response for the subsequent Delivery Year.

Generation Netted Against Load

~~20.~~39. The load associated with BTMG must have a Load Serving Entity (LSE). The LSE will be responsible for supplying energy, capacity, ancillary services and transmission for that portion of the load not supplied by the BTMG. For the purposes of this rule, the load not supplied by the BTMG shall include load normally supplied by the BTMG during periods when the BTMG is not operating.

~~21.~~40. Since generation output from operating BTMG is allowed to reduce the actual gross load at a retail end-use customer site or at the wholesale area level (in the case of Non-Retail BTMG), a net load (gross load minus operating BTMG, not to be less than zero) is able to be used in the determination of LSE's charges for energy, ancillary services, capacity, transmission, and administrative fee charges. An operating BTMG unit is as able to net against the actual gross load; however, any MWs from the unit that are providing energy to PJM in real-time as generation resource are not permitted to net against the load in the determination of LSE's charges. An operating BTMG unit participating in Pre-Emergency/Emergency Load Response and providing load reductions to PJM may result in an add-back to the LSE's load in the determination of a LSE's peak load contribution (i.e., obligation peak load) in accordance with PJM Manual 19, Load Forecasting and Analysis, Attachment A.

~~22.~~41. Under this "netting" arrangement, the EDC and/or LSE will be responsible for reporting both the load and generation information to PJM for use in the load forecast for generators for which metering is required for operational security purposes. The EDC may need to obtain this information from the LSE and both parties are required to cooperate to ensure PJM receives the information.

~~23.~~42. For wholesale market participation, the interconnection requirements will be publicly available and, in cases where parallel operation will exist with the distribution or transmission system, determined by the EDC in accordance with applicable state or other jurisdictional requirements. The generator will be evaluated using the PJM interconnection process only if it is involved in a wholesale transaction.

BTM Netting – Non-Retail Participation

~~24.~~43. Non-Retail BTMG netting provisions apply to behind the meter generation used by municipal electric systems, electric cooperatives, and EDCs to serve load, provided that, if distribution facilities are used to deliver energy from Non-Retail BTMG to load, then permission to use such distribution facilities has been obtained from the owner, lessee, or operator of such distribution facilities. Such permission shall be submitted to PJM in writing from the owner, lessee or operator. Non-Retail BTMG does not include a generation facility that is dedicated to a retail end-use program that directly offsets retail charges under regulations promulgated by a Relevant Electric Retail Regulatory Authority (e.g. Net Energy Metering, Community Solar, or Aggregate Net Energy Metering programs).

~~25.~~44. A Load Serving Entity (LSE) that has Non-Retail BTMG that may be used to net against a municipal electric system, electric cooperative, or EDC's wholesale area load that such LSE serves must have a Network Integration Transmission Service agreement with PJM.

~~26.~~45. On an annual basis in the month of June, PJM will solicit the LSE that serves the entire load of a modeled municipal electric system, electric cooperative, or EDC wholesale area in the Capacity Exchange system to report and confirm Non-Retail BTMG unit data for a wholesale area for the Delivery Year in the Capacity Exchange system. The LSE account that

was assigned the entire Obligation Peak Load value on June 1 of the Delivery Year for a modeled wholesale area in Capacity Exchange is responsible for the reporting requirements of NRBTMG for such Delivery Year. Non-Retail BTMG units with nameplate capacity that are greater than or equal to 0.1 MW and are located in such modeled wholesale area shall be reported. If there are multiple LSEs that serve load in a modeled EDC wholesale area in the Zone or if there are multiple LSEs that serve load in the Rest of the Zone (i.e., Zone minus modeled wholesale areas in the Capacity Exchange system), PJM will solicit the EDC for the modeled EDC wholesale area or for the Rest of the Zone to report and confirm Non-Retail BTMG unit data applicable to the modeled EDC wholesale area or the Rest of the Zone.

~~27.~~46. Each solicited LSE and EDC shall respond to PJM's request by the stated deadline of the request and report and confirm Non-Retail BTMG unit data for a wholesale area in the Capacity Exchange system and provide all requested data in the Capacity Exchange system to the extent the LSE or EDC holds or after best efforts can obtain the requested data. If an LSE or EDC demonstrates to PJM that a generator agreement prior to 2005 contains confidentiality requirements that prohibit the disclosure of certain data requested the LSE or EDC shall not be required to provide such data. The stated deadline of PJM's request shall allow the LSE or EDC at least 31 days to respond. If there is a LSE or EDC account for which there is no Non-Retail BTMG located in the area for which the LSE or EDC was requested to report, the solicited LSE or EDC shall still report and confirm in the Capacity Exchange system that there is no Non-Retail BTMG located in that area. Until Change Request functionality has been released in the Capacity Exchange system, the responsible LSE/EDC must submit a completed Non-Retail BTMG template for the specific missing and/or new Non-Retail BTMG unit(s) to CapacityExchangeSupport@pjm.com to initiate the modeling of the Non-Retail BTMG unit in the Capacity Exchange system.

~~28.~~47. The Non-Retail BTMG reporting template shall be posted on the pjm website to facilitate the modeling a missing or new Non-Retail BTMG in the Capacity Exchange system until Change Request functionality is released in the Capacity Exchange system..

~~29.~~48. Each unit shall be identified separately on the Non-Retail BTMG reporting template or in the Capacity Exchange system. An electric storage resource with nameplate capacity that is greater than or equal to 0.1 MW co-located with another resource type shall be identified separately on the Non-Retail BTMG reporting template or in the Capacity Exchange system.

~~30.~~49. The summer rated installed capacity value of a unit reported on a Non-Retail BTMG reporting template or in the Capacity Exchange system shall be determined by the LSE consistent with the methodology for determining Summer Net Capability for the resource type in Manual 21, section 2. However, there is no summer or winter capability verification test requirement for Non-Retail BTMG. In the case of a new solar or wind Non-Retail BTMG unit, the summer rated installed capacity value shall be determined as the Net Maximum Capacity as defined in Manual 21, Appendix B multiplied by the posted class average capacity factor at the time of the initial reporting or Delivery Year confirmation. For mature solar or wind Non-retail BTMG, a LSE/EDC may use actual historical performance data to determine the summer rated installed capacity value.

~~31.~~50. If a portion of the reported unit or the entirety of a previously reported unit has been qualified as a Generation Capacity Resource or Energy Resource, the installed capacity MWs participating in PJM Markets for the current Planning Period and expected to be participating in PJM Markets during coincident peak hours (i.e., the MWs are not expected to net against wholesale area load during coincident peak hours) shall also be reported on the Non-Retail BTMG reporting template or in the Capacity Exchange system.

~~32.~~51. If a portion of the reported unit or the entirety of a previously reported unit is currently

registered as Pre-Emergency, Emergency, or Economic Load Response and is expected to be participating in PJM Markets (i.e., the MWs are not expected to net against the wholesale area load during coincident peak hours), the LSE shall indicate on the Non-Retail BTMG reporting template or in the Capacity Exchange system the installed capacity MWs participating in PJM Markets.

~~33.~~52. The netting capability of a unit shall be the summer rated installed capacity value minus the installed capacity MWs participating in PJM Markets.

~~34.~~53. To assist LSE/EDCs with the completion of the Non-Retail BTMG reporting template, PJM shall post on the pjm website a list of potential Non-Retail BTMG based on EIA-860 data.

~~35.~~54. Until the Change Request functionality is released in Capacity Exchange, if there is an update needed to the Non-Retail BTMG unit characteristic data in the Capacity Exchange system,, the LSE/EDC shall submit a request to CapacityExchangeSupport@pjm.com to update specific unit data. The reporting of a new or deactivated unit to PJM shall occur within 31 days of the in-service or deactivation date. However, a new unit or Capacity Resource that changes status to Non-Retail BTMG shall be reported to PJM no later than October 31 in order to comply with business rules #~~13~~23 ~~through~~and #~~15~~25 if an adjustment to wholesale area's network service peak load or obligation peak load is requested for next calendar year or delivery year. For new units, the LSE/EDC must also submit to CapacityExchangeSupport@pjm.com a letter from the owner, lessee, or operator of the distribution facilities that indicates permission to use the distribution facilities to transmit energy from the Non-Retail BTMG to the wholesale area load on the distribution system has been granted.

~~36.~~55. PJM shall post aggregate data on the Non-Retail BTMG submitted to PJM consistent with the criteria in Manual 33, Section 3: Market Data Postings.

~~37.~~56. Non-Retail BTMG netting is subject to a threshold amount in the determination of network service peak loads and obligation peak loads. Non-Retail BTMG netting is not subject to a threshold amount in the determination of actual or scheduled loads used in energy, ancillary services, or administrative fee charges. The Non-Retail BTMG threshold is 1,500 MW for calendar year 2006 for network service peak loads and for the 2006/2007 Planning Period for obligation peak loads. Each year thereafter, the Non-Retail BTMG threshold will be increased based on PJM RTO load growth. PJM RTO load growth will be determined based on the most recent forecasted weather-adjusted coincident summer peak divided by the weather-adjusted coincident peak for the previous summer. After applying the load growth factor, the Non-Retail BTMG threshold will be rounded to the nearest whole MW, and that rounded number will be the Non-Retail BTMG threshold for that current calendar year or Planning Period and the base amount for calculating the Non-Retail BTMG threshold for the succeeding calendar year or Planning Period.

~~38.~~57. If the total amount of Non-Retail BTMG in PJM exceeds the Non-Retail BTMG threshold, the amount of operating Non-Retail BTMG eligible to net against the wholesale area load shall be prorated back to the threshold in the determination of wholesale area's network service peak load and obligation peak load. In such instance, the amount of operating Non-Retail BTMG eligible for netting in the wholesale area shall be the product of the total operating Non-Retail BTMG in such wholesale area multiplied by an adjustment ratio. The adjustment ratio is equal to the Non-Retail BTMG threshold divided by the total amount of the Non-Retail BTMG in the PJM RTO (not to exceed 3,000 MW). [Example: if the Non-Retail BTMG threshold is 1,500 and the total amount of Non-Retail BTMG netting in the PJM RTO reaches 2,000, then 75 percent of the operating Non-Retail BTMG in the wholesale area would be eligible for netting.]

~~39.~~58. The total amount of Non-Retail BTMG in PJM shall be calculated based on the sum of the netting capability values reported to PJM in the Capacity Exchange system.

~~40.~~59. PJM shall post the total amount of Non-Retail BTMG in PJM, Non-Retail BTMG threshold, and the adjustment ratio that is applicable for the calendar year/Planning Period on the PJM website no later than November 30 prior to such calendar year/Planning Period.

~~41.~~60. If the ratio adjustment for a calendar year/Planning Period is less than 100%, the EDC that is responsible for calculating the obligation peak load and network service peak load for the wholesale area in a transmission zone, shall apply the ratio adjustment in their procedures for calculating the wholesale area's network service peak load for the calendar year and obligation peak load for the Planning Period. In their procedures, the EDC shall reduce the total amount of operating Non-Retail BTMG in the wholesale area that is allowed to net against the wholesale area's actual load to an amount equal to the total operating Non-Retail BTMG in the wholesale area that is allowed to net times the ratio adjustment. The total operating Non-Retail BTMG in the wholesale area that is allowed to net shall be based on the total hourly generation output data for Non-Retail BTMG units in the wholesale area less any hourly generation output of such Non-Retail BTMG units participating in PJM Markets.

~~42.~~61. If there are multiple LSEs that serve the load in a modeled EDC wholesale area or in the Rest of the Zone, the impact of any reduced netting to the network service peak load value or the obligation peak load value that would be determined for a modeled EDC wholesale area or the Rest of the Zone as a result of the total amount of Non-Retail BTMG in PJM exceeding the Non-Retail BTMG threshold or the 3000 MW cap (as described in business rule 53) shall be allocated to the multiple LSEs that serve load in a modeled EDC wholesale area in the Zone or in the Rest of the Zone in accordance with the EDC's procedures for calculating an LSE's network service peak load or obligation peak load.

~~43.~~62. The LSE/EDC account that is responsible to report and confirm on NRBTMG units in a wholesale area for a Delivery Year is also responsible for submitting in November of such Delivery Year generation output data for the Non-Retail BTMG units that have a netting capability value greater than 0.1 MW, and are located in such wholesale area. The hourly generation output data for the zonal 1CP hour and RTO 5CP hours are reported in the Capacity Exchange system.

~~44.~~63. An EDC may request hourly generation output data for additional hours if additional hours are used in an EDC's procedures for calculating the LSE's network service peak load for the calendar year or obligation peak load for the Planning Period. An EDC's request for additional hours of generation output data must be submitted to CapacityExchangeSupport@pjm.com no later than October 15 prior to a calendar year/Planning Period.

~~45.~~64. PJM shall open the Coincident Peak Hours screen in the Capacity Exchange system on November 1 for the submittal of hourly generation output data for coincident peak hours applicable for prior November 1 through October 31 reporting period..

~~46.~~65. The hourly generation output data for the entire unit shall be reported the Coincident Peak Hours screen in Capacity Exchange. If a portion of the hourly generation output participated in a PJM Market, such portion of the hourly generation output shall also be reported.

~~47.~~66. The responsible LSE/EDC must submit generation output template for the applicable calendar year year/Planning Period. The Non-Retail BTMG generation output data in the Coincident Peak Hours screen in Capacity Exchange system prior to the closing of screen on November 30. Generation output data is viewable to both the responsible LSE/EDC and the EDC responsible for calculating the network service peak load and obligation peak load of the wholesale area in the zone.

~~48.~~67. The total amount of Non-Retail BTMG eligible for netting under the BTMG provisions is capped at 3,000 MW. If this cap is reached, no additional Non-Retail BTMG will be eligible for netting in the determination of network service peak loads and obligation peak loads.

Furthermore, within six months of reaching the cap, PJM shall file with the FERC to justify either continuation of the existing BTMG rules (including any expansion of the rules to include additional MW) or any change to the rules.

~~49.~~68. After the 3000 MW cap is reached, a new Non-Retail BTMG unit reported to PJM is ineligible to net against a wholesale area's load in the determination of the wholesale area's network service peak load and obligation peak load. After the 3000 Mw cap is reached, PJM shall indicate on the Coincident Peak Hours screen in the Capacity Exchange system those units that are ineligible for netting. An EDC's procedures for calculating a wholesale area's network service peak load and obligation peak load must ensure that the generation output of a Non-Retail BTMG unit identified as ineligible for netting is not included in the total operating Non-Retail BTMG in the wholesale area that is allowed to net against the wholesale area actual load.

~~50.~~69. A Non-Retail BTMG unit that had generation output that was allowed to net against the wholesale area actual load in the determination of a wholesale area's network service peak load or obligation peak load shall be required to operate during the first ten occurrences of Maximum Generation Emergency (MGE) conditions in the zone in which the resource is located between the period of November 1 through October 31. This obligation applies to an MGE condition called for either generation or transmission emergencies. MWs from a Non-Retail BTMG unit operating in Non-Retail BTMG status during emergency events are subject to this Non-Retail BTMG operational performance requirement. MWs from a Non-Retail BTMG unit that are operating in Generation Capacity Resource and/or Energy Resource status or PJM Load Response status (Pre-Emergency/Emergency or Economic Load Response) during emergency events are subject to Non-Performance Assessment in accordance with Manual 18, Section 8.4A.

~~51.~~70. The emergency procedures that trigger the performance expectation to load Non-Retail BTMG are specified in PJM Manual 13. Members are informed of emergency events in PJM through the Emergency Procedures tool. Users of Emergency Procedures tool can sign up for email or text notification via their user profile to receive emergency procedure messages.

~~52.~~71. Once an emergency procedure triggers the performance expectation to load Non-Retail BTMG, a Non-Retail BTMG unit is requested to operate at its maximum net or gross electrical power output, subject to the equipment stress limits for the Non-Retail BTMG unit; however, the performance of a unit during an emergency event will be measured against the expected performance level of such unit.

~~53.~~72. The expected performance level of a Non-Retail BTMG unit for a November 1 through October 31 compliance period is the highest netting credit level realized for such unit for the prior November 1 through October 31 reporting period of generation output data, capped at the unit's netting capability value reported in the Capacity Exchange system as of October 31 prior to the start of the November 1 through October 31 compliance period. The highest netting credit level realized is the maximum hourly generation output level excluding any generation output participating in PJM Markets that was reported for such unit in the Coincident Peak Hours screen for the prior November 1 through October 31 reporting period multiplied by the ratio adjustment.

~~54.~~73. Based on the Non-Retail BTMG generation output data submittals submitted by the responsible LSE/EDC in the Capacity Exchange system, PJM will determine the Non- Retail BTMG units that are subject to a performance compliance evaluation for the first ten occurrences that emergency procedures trigger the requirement to load during the current compliance period of November 1 and October 31 and the expected performance level for each unit. In December, PJM will send a notification to all LSE/EDCs that have Non-Retail BTMG units that are subject to a performance compliance evaluation for the first ten occurrences that

emergency procedures trigger the requirement to load during the current compliance period of November 1 and October 31 and provide the expected performance level for each unit that will be used by PJM to evaluate performance compliance. Once an Expected Performance Screen is released in the Capacity Exchange system, email notification to an LSE/EDC of a Non-retail BTMG unit's expected performance value will be replaced by the ability of the LSE/EDC to view the expected performance value of a Non-Retail BTMG unit through the Expected Performance screen.

~~55.~~74. If an emergency procedure triggers the performance expectation to load Non-Retail BTMG in an emergency event area, PJM shall evaluate the performance of all Non-Retail BTMG units that are subject to a performance compliance evaluation and located in the area of the emergency event.

~~56.~~75. If there are any emergency event(s) in a month for which Non-Retail BTMG performance compliance is to be evaluated by PJM, PJM shall post a Non-Retail BTMG performance compliance template applicable to the events in the month within two business days after the conclusion of the month to facilitate the collection of hourly generation output data during the emergency events. Once an Event Hours Screen is released in the Capacity Exchange system, the Non-Retail BTMG performance compliance template will be replaced by the ability to submit hourly generation output data for emergency events in an Event Hours screen that will open for data submittal no later than two business days after the conclusion of the event month.

~~57.~~76. LSE/EDCs that have Non-Retail BTMG units that are subject to a performance compliance evaluation for the emergency event(s) during the month shall complete and submit a Non-Retail BTMG performance compliance template to PJM at BTMG@pjm.com no later than 31 days after PJM posts the Non-Retail BTMG performance compliance template applicable to the events in the month. However, LSE/EDCs that have Non-Retail BTMG units that are subject to a performance compliance evaluation for emergency event(s) during the month of October shall complete and submit a Non-Retail BTMG performance compliance template by November 25. Once an Event Hours Screen is released in the Capacity Exchange system, the Non-Retail BTMG performance compliance template will be replaced by the ability to submit hourly generation output data for emergency events in an Event Hours screen that will close to data submittal no later than 31 days after the submittal window opens; however, not later than November 25 for emergency events during the month of October.

~~58.~~77. For each performance compliance event Non-Retail BTMG that is subject to a performance compliance evaluation and is not on a scheduled outage but fails to operate, in whole or in part, the netting associated with that resource for purposes of determining a wholesale area's network service peak load and obligation peak load will be reduced by ten percent of the amount of megawatts the resource failed to produce. The amount of megawatts that the resource failed to produce, the unit's performance shortfall, will be the difference between its expected performance level and its megawatt average output over the period of the emergency event. [Example: if a Non-Retail BTM resource is expected to perform at an output of 100 MW during an emergency event for which performance compliance is evaluated, but only operates to a level of 75 MW, in the next year, the amount of hourly generation output from the unit that will be allowed to net against the wholesale area load will be reduced by 2.5 MW, which is the product of the following calculation:[(100 – 75) x .10]].

~~59.~~78. A unit's performance shortfall may be reduced by the over-performance of another Non-Retail BTMG unit associated with the same wholesale area and located in the emergency action area.

~~60.~~79. The Non-Retail BTMG unit's performance shortfall for a performance compliance event may be excused if the LSE/EDC can demonstrate to PJM that such unit was unable to generate at the expected performance level due to the actual wholesale area load level being served by the

unit during the period of the performance compliance event and restrictions placed on the unit to prevent injections into the PJM transmission system.

~~61.~~80. No later than November 30, PJM shall provide to the impacted EDCs a list of Non-Retail BTMG units by LSE/EDC account that failed to perform during performance compliance events for the prior November 1 through October 31 compliance period and each unit's total netting reduction amount due to the unit's failure to perform for the period. PJM shall also provide a copy of the impacted EDC notice to the applicable LSE. The EDC's procedures for calculating a wholesale area's network service peak load and obligation peak load shall ensure that the total operating Non-Retail BTMG that is allowed to net against the wholesale area's actual load during the relevant hours is reduced by the sum of the total netting reduction amounts of all Non-Retail BTMG units located in the wholesale area that failed to perform. Any reductions in netting will be applied in the succeeding calendar year with regard to network service peak load and the succeeding Planning Period with regard to obligation peak load. Once an Event Performance screen is released in Capacity Exchange, the responsible LSE/EDC for a wholesale area will be able to view performance compliance event results for NRBTMG units. Once a Netting Reduction screen is released in Capacity Exchange, the responsible LSE/ EDC and the EDC that is responsible for calculating a wholesale area's network service peak load and obligation peak load will be able to view the total netting reduction amount for the wholesale area due to all performance compliance events for a November 1 through October 31 compliance period through the Capacity Exchange system.

~~62.~~81. If there are multiple LSEs that serve the load in a modeled EDC wholesale area or in the Rest of the Zone, the impact of any netting reduction amount to the network service peak load value or obligation peak load value that would be determined for the modeled EDC wholesale area or the Rest of the Zone as a result of Non-Retail BTMG units in the modeled EDC wholesale area or in the Rest of the Zone that fail to perform during performance compliance events shall be allocated to the multiple LSEs that serve load in a modeled EDC wholesale area in the Zone or in the Rest of the Zone in accordance with the EDC's procedures for calculating an LSE's network service peak load or obligation peak load.

~~63.~~82. ~~A generator that moved behind the meter is not eligible to move back in front of the meter until the impact of the reduced netting penalty described in Rule 62 above has been rolled out.~~ The impact of any netting reduction penalty amount to a wholesale area's network service peak load for the subsequent calendar year or obligation peak load for subsequent Planning Period, as a result of Non-Retail BTMG unit(s) failure to perform, remains in effect for the subsequent calendar year/Planning Period regardless if a Non-Retail BTMG unit in the wholesale area changes to Generation Capacity Resource status at a point in time during such calendar year/Planning Period.

~~64.~~83. Non-Retail BTMG may not schedule a unit outage in the months from June through September.

~~65.~~84. The LSE/EDC that is responsible to report and confirm on NRBTMG units in a wholesale area for a Delivery Year is also responsible for reporting a scheduled outage during such Delivery Year of a Non-Retail BTMG unit that has a netting capability value greater than 0.1 MW to PJM at BTMG@pjm.com as soon as the LSE/EDC becomes aware of the scheduled outage on the unit. The email notification shall identify the unit, outage start date/time, expected outage stop date/time, and the outage MWs. Only those scheduled outages during the period of October through May and reported to PJM in advance of a performance compliance event will excuse the unit from the failure to perform during a performance compliance event. Once an Outages screen is released in the Capacity Exchange system, the reporting of scheduled outages will occur in Capacity Exchange and replace the reporting of a scheduled outages through an email to BTMG@pjm.com.

~~66.~~85. PJM shall post aggregate Non-Retail BTMG data on the highest netting levels realized, the expected performance levels, and the generation output levels provided during an emergency event consistent with the criteria in Manual 33, Section 3: Market Data Postings.

Transmission Owner BTMG Reporting and Communication Process

~~67.~~86. PJM will maintain a list of municipal electric systems, electric cooperatives and electric distribution companies by transmission zone which will be verified by Transmission Owners on an annual basis.

~~68.~~87. PJM will provide each Transmission Owner with a list of BTMG facilities greater than 1 MW located within the relevant transmission zone, delineated by municipal electric system, electric cooperative and/or electric distribution company as determined by PJM's examination of EIA forms or other available public information. To the extent that the Transmission Owner holds or after reasonable efforts can obtain information, the Transmission Owner will then provide PJM the necessary information, defined below in this section, to determine the impact of BTMG during a manual load dump event or other emergency situations on an annual basis. Municipal electric system, electric cooperative and/or electric distribution company will coordinate with Transmission Owner to provide the necessary information, defined below in this section, for BTMG located in their area upon request by the Transmission Owner.[10] If the Transmission Owner is unable after reasonable diligence to provide the information defined below in this section, the Transmission Owner will inform PJM. PJM will include the Transmission Owner verified BTMG information in the Post Contingency Local Load Relief Warning ("PCLLRW") tool or other tool as applicable. Transmission Owner will provide the following information[11] for each BTMG and as defined in Manual 3A, Appendix D:

- PJM Transmission Substation - Electrically connected Transmission Substation PJM 8 character EMS name.
- Voltage (kV) - Voltage (PJM EMS terminal voltage at high side of load transformer). If connected at distribution system then this should be the high side voltage at PJM interconnection facility.
- PJM equipment name – Official PJM name for equipment (transformer, line, loads) PJM 8 character.

~~69.~~88. To the extent that the Transmission Owner holds or after reasonable efforts can obtain information, Transmission Owner may provide additional or updated information for BTMG facilities (i.e., contact information, typical operational mode, start up time, etc.) on the list or add BTMG facilities to the list as appropriate. Transmission Owner may also review and update the BTMG information more frequently than on an annual basis. PJM will maintain confidentiality of all information provided by Transmission Owner and will only release such information under conditions governed by Operating Agreement, section 18.17.

~~70.~~89. Transmission Owner may coordinate with BTMG facility interconnected to the transmission system, or through the relevant electric distribution utility, during expected prolonged emergency load dump/shed or as otherwise necessary to help mitigate a grid emergency. As BTMG facilities do not participate in the wholesale energy market, any request to operate for the purpose of helping to mitigate a wholesale market issue is on a voluntary basis at the discretion of the BTMG owner. Any request to operate to mitigate a wholesale market issue will be communicated to the BTMG as a voluntary request at the discretion of the BTMG owner.

[10] If a Municipal electric system, electric cooperative, electric distribution company or affiliated transmission company is not a PJM member, and such company does not cooperate

[11] If BTMG is connected to more than one transmission substation then Transmission Owner will provide up to 3 connected transmission substations as needed.