



# PJM Co-Located Load Proposal

Market Implementation Committee  
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- Stakeholder approved proposal preferred versus another mechanism (i.e. 206 complaint)
- Additional certainty around the application of our BTMG rules to co-located load and unique configurations

PJM’s proposal consists of two rule sets. The intention is to provide an enhanced set of rules for the proposed unique configurations

	Co-Located Load without Supply from System	Co-Located Load with Supply from System
Configuration Description	<p>Co-located load is only ever supplied energy by the generator and is configured in a manner that prevents the co-located load from ever being supplied from the system.</p> <p>The full output of the generator is made available for PJM dispatch at all times due to ability and willingness of load to fully curtail.</p>	<p>Co-located load is supplied energy from the system for all or any portion of the load not supplied by the Generation.</p>

- Co-located load without supply from the system
  - CIRs retained
  - Co-located load charges for Black-Start, Regulation, and Reserves assigned to generator based on gross metered load (not net of gen output)\*
  - Additional clarifications unique to co-located load configuration
- Co-located load with supply from the system
  - Similar to existing BTMG rules with additional clarifications unique to co-located load configuration

\*This component is the major difference between the PJM and Constellation/Brookfield proposal

	Status Quo for BTMG	PJM Proposed Co-Located Load without Supply from System	PJM Proposed Co-Located Load with Supply from System
Jurisdiction	Adherence to all applicable state and local rules for serving co-located behind the meter load.	Status quo	Status quo
Load Trip/Frequency Control	Generator reduce net output to achieve net MW basepoint	Status quo	Status quo
Generator Trip	Load is not curtailed but instead supplied by the grid via the GSU or via a secondary feed from the system.	Relay scheme established to automatically curtail load contemporaneous with generator trip or shift load to another generator at the station, consistent with all other requirements.	Status quo
RT Metering and Telemetry	Required for significant sized loads $\geq 10$ MW.	Wholesale metering and telemetry is established at the Point of Interconnection; subject to any modifications or additions directed in the Necessary Studies Agreement to assure system reliability. If required by PJM, local utility, or RERRA separate load meter (behind the point of interconnection) will measure real power, reactive power, etc. and be provided to PJM and local utility.	Wholesale metering and telemetry is established at the Point of Interconnection; subject to any modifications or additions directed in the Necessary Studies Agreement to assure system reliability. If required by PJM, local utility, or RERRA separate load meter (behind the point of interconnection) will measure real power, reactive power, etc. and be provided to PJM and local utility.
Settlement Metering	Wholesale meter reflects output of generator net of BTML	Separate Generator and Load meters	Need ability to separate station service load which will require separate Load meter
Reactive Modeling	Generator and load modeled separately	Status quo	Status quo
Credits for Reactive Supply & Voltage Control	Not eligible for the portion of a generating unit's capability that changes to BTMG status. Must submit a FERC filing to amend its cost-based revenue requirement for supplying reactive supply and voltage control to account for the status change to BTMG at least 90 days prior to the effective date	Status quo plus the clarification that the reactive revenue requirement must be reduced by the amount of the co-located load	Status quo plus the clarification that the reactive revenue requirement must be reduced by the amount of the co-located load
Contingency Modeling	Model separate generator and load contingencies to reflect reality (no netted generator/load contingency).	Status quo	Status quo

	Status Quo for BTMG	PJM Proposed Co-Located Load without Supply from System	PJM Proposed Co-Located Load with Supply from System
Capacity Market Must Offer Requirement	With the exception of Intermittent Resources and Capacity Storage Resources, all existing generation resources must offer available MW in each RPM Auction.	Status quo	Status quo
Capacity Offer Development	A sell offer above \$0 for an existing generation resource must seek unit-specific exception request by submitting ACR data in accordance with section 6.8 of Attachment DD, or may utilize an offer cap based on default gross ACR if available.	Status quo	Status quo
Capacity Accreditation	Capacity value of co-located generation is reduced by MW quantity of BTML, regardless of whether or not the BTML is curtailable. Reduction is applied to ICAP MW of thermal generation and to accredited UCAP MW of ELCC Resource.	Capacity value of co-located generation is NOT reduced by MW quantity of co-located load provided the load can curtail in order to make the full capability of the co-located generation available to the system in accordance with all other requirements of this package.	Status quo. Removal from Generation Capacity Resource Status rules apply.
CIRs	CIRs are reduced by MW quantity of BTML, regardless of whether or not the BTML is curtailable	CIRs are not reduced provided all other requirements of this package can be satisfied.	Status quo
Capacity Testing	Net Test Capacity equal to gross capability less station service/auxiliary load less co-located host/process load where gross capability and station service/auxiliary load are based on measurements made at time of each seasonal capacity verification test and co-located host/process load is based on the highest hourly MW quantity measured during the most recent 36 months at time of verification test.	Net Test Capacity equal to gross capability less station service/auxiliary load where gross capability and station service/auxiliary load are based on measurements made at time of each seasonal capacity verification test.	Status quo
Demand Response Eligibility	End-use customers may participate in RPM as DR in a MW quantity not to exceed the customer's Peak Load Contribution ("PLC").	Co-located load without system service is ineligible to provide demand response.	Status quo

	Status Quo for BTMG	PJM Proposed Co-Located Load without Supply from System	PJM Proposed Co-Located Load with Supply from System
Energy Market Must Offer Requirement	A generator with a capacity commitment must submit a cost-based offer into the PJM DA and RT energy market each day (unless unavailable due to outage) in a MW quantity commensurate with the resource's ICAP commitment level. A market-based offer submitted by such generator must also be in a MW quantity commensurate with its ICAP commitment level. A Capacity Storage Resource or an Intermittent Resource may satisfy this energy market must offer requirement by either self-scheduling or offering the unit as a dispatchable resource where the hourly DA self-scheduled values may vary hour to hour from the capacity commitment.	Status Quo plus clarification that offered values of a Capacity Storage Resource or an Intermittent Resource may not account for reserving MWs to serve any co-located load for which CIRs/capacity value have not been reduced.	Status quo
Cost-based Offer Development (Section 1.2 of Schedule 1 of OA)	Cost-based offers for energy from generating resources shall not exceed the variable cost of producing such energy as determined in accordance with Schedule 2 to this Agreement and applicable regulatory standards, requirements and determinations; provided that, a Market Seller may offer to the PJM Interchange Energy Market the right to call on energy from a resource the output of which has been sold on a bilateral basis, with the rate for such energy if called equal to the curtailment rate specified in the bilateral contract.	Status quo except remove "a Market Seller may offer to the PJM Interchange Energy Market the right to call on energy from a resource the output of which has been sold on a bilateral basis, with the rate for such energy if called equal to the curtailment rate specified in the bilateral contract." Add : Hydro resources with co-located load shall have the option to make DAM cost based offer.	Status quo except remove "a Market Seller may offer to the PJM Interchange Energy Market the right to call on energy from a resource the output of which has been sold on a bilateral basis, with the rate for such energy if called equal to the curtailment rate specified in the bilateral contract." Add : Hydro resources with co-located load shall have the option to make DAM cost based offer.
Permissible Components of Cost-based Offers of Energy (Section 1.1 of Schedule 2 of OA)	Boilers: Firing-up cost, Peak-prepared-for maintenance cost Machines: Starting cost from cold to synchronized operation Other generating units: Incremental maintenance cost, No-load cost during period of operation, Labor cost, Operating Costs, Emission allowances/adders, Maintenance Adders, Ten percent adder, Charging costs for Energy Storage Resources , Fuel Cost	Status quo	Status quo
Market-based Offer Development	Market-based offers cannot exceed \$1,000/MWh, except (1) when the cost-based offer is above \$1,000/MWh and less than or equal to \$2,000/MWh, then the market-based offer must be less than or equal to the cost-based offer; and (2) when the cost-based offer is greater than \$2,000/MWh, then the market-based offer must be less than or equal to \$2,000/MWh.	Status quo Add : Hydro resources with co-located load shall have the option to make DAM cost based offer.	Status quo Add : Hydro resources with co-located load shall have the option to make DAM cost based offer.
Response Time (how quickly load must be able to be interrupted)	N/A	<10 Minutes, consistent with primary reserve response time	N/A



# PJM Proposal

	Status Quo for BTMG	PJM Proposed Co-Located Load without Supply from System	PJM Proposed Co-Located Load with Supply from System
Energy Settlements	Generator settlements measured at generator revenue meter.	Status quo	Status quo except co-located load not eligible for the Station Power Accounting procedures of PJM Manual 28 – Section 13
Transmission Costs	PJM network load customers pay transmission-related costs based on their Network Service Peak Load ("NSPL"). The NSPL is determined by each EDC using EDC-specific procedures that, in general, base the NSPL on the customer load (net of operating BTMG) at the time of specific peak load hours.	Not network load and will not be charged for NITS	Status quo
Capacity Costs	LSEs pay capacity costs (i.e., RPM charges) based on their Peak Load Contribution ("PLC"). The PLC is determined by each EDC using EDC-specific procedures that, in general, base the PLC on the LSE's load (net of operating BTMG) at the time of specific peak load hours.	Not network load and will not be charged for Locational Reliability Charge	Status quo
Ancillary Services Costs	LSEs pay ancillary services costs based on their real-time load served by the system.	Co-located load charges for Black-Start, Regulation, and Reserves assigned to generator based on gross metered load (not net of gen output)	Status quo
Inclusion in billing determinants used to assess Member Default Charges and PJM Administrative Charges	<p>PJM Default Allocation Assessments are billed according to Section 15.2.2 (Default Allocation Assessment) of the OA.</p> <p>PJM Administrative Charges refers to Schedules 9 and 10. These charges are billed in accordance with Section 2 of Manual 27. In general, it is charged based on hourly transmission usage, load, generation and/or market activity.</p>	Status quo	Status quo
Reserve Must Offer Obligation	Per Manual 11 Section 4.2.2, Any generator that is a PJM generation capacity resource that has a Reliability Pricing Model (RPM) or Fixed Resource Requirement (FRR) Resource commitment that is eligible to provide Reserves must offer their 10-minute and 30-min reserve capability, unless the unit is unavailable due to an approved planned outage, maintenance outage or forced outage. PJM will calculate the Reserve MW quantity available from each generation resource, not including ESR and Hydroelectric resources, based on the bid in energy parameters, reserve parameters, Regulation status and current energy output data. Additional information provided in Manual 11	Status quo	Status quo

	Status Quo for BTMG	PJM Proposed Co-Located Load without Supply from System	PJM Proposed Co-Located Load with Supply from System
Load Interconnection (Planning)	<p>The generation owner must notify PJM and the Interconnected TO of any modification to the generation facility, including the addition of co-located load, at least 90 days in advance of the beginning of physical construction so that PJM and the Interconnected TO can evaluate potential reliability impacts of the modification. The modification request will initiate the Necessary Study process.</p>	<p>Status quo plus a Generation Owner seeking to retain CIRs for a generator that adds co-located BTML must demonstrate that the arrangement meets all requirements to retain CIRs including requirements that (1) the co-located load is never to be served from the system when not being served by its co-located generation and (2) must be curtailable to 0 MW in no more than 10 minutes. Such demonstration shall include Professional Engineer stamped technical documentation including but not limited to drawings, procedures, and description of protection systems and other systems, that will be in place to prevent the co-located load from being fed from the system when co-located generation is not serving it and that will allow the co-located load to be curtailed to 0 MW in no more than 10 minutes.</p>	Status quo
Load Forecasting	<p>Load that is netted out by co-located BTM generation in any given hour is not included in the hourly PJM metered load for that hour. Historical hourly PJM metered load is used in developing the PJM peak load forecast therefore load that is normally netted out by operating BTM generation will not be reflected in the peak load forecast. The MW quantity of such load that is reflected in the peak load forecast is dependent upon historical hourly operation of the BTM generation as it relates to netting out the co-located load.</p>	Not included in the PJM load forecast	Status quo
Treatment in PJM planning studies (e.g., Reserve, CETO, CETL, ELCC, Market Efficiency, etc.)	<p>BTM co-located generation/load is not modeled separately in the Reserve Requirement Study model, the ELCC model or the Market Efficiency model. This is predominately the case with CETL &amp; CETO, however, there are a small number of instances where the TO has separately reflected BTM co-located generation/load in the transmission planning power flow models that are ultimately used for CETL purposes. In these instances, the CETO model is updated to separately reflect this BTM generation/load for purpose of maintaining consistency between the two models.</p>	Status quo	Status quo

	Status Quo for BTMG	PJM Proposed Co-Located Load without Supply from System	PJM Proposed Co-Located Load with Supply from System
Amendments to ISA	<p>The ISA or other relevant service agreement is amended to reduce CIRs to an amount equal to the generator's current CIRs less the capacity dedicated to the BTML (based on the highest expected hourly demand of the BTML). The MFO in the agreement may remain unchanged, provided the generator's full output capability remains available to the system whenever the host load is offline. The ISA is also modified to reflect the facility modifications to incorporate the load (description of the load facility, updated one-line diagram in ISA Schedule B), as well as any additional required load metering (ISA Schedule C).</p>	<p>CIRs are not reduced by the amount of BTML that can satisfy all requirements of this package including requirements that (1) the co-located load is never to be served from the system when not being served by its co-located generation and (2) must be capable of reducing from full consumption to 0 MW in no more than 10 minutes.</p> <p>Include requirements in Schedule F of the ISA for non-standard terms and conditions that specify the type and MW quantity of co-located load that is never to be served from the system when not being served by its co-located generation and must be capable of reducing from full consumption to 0 MW in no more than 10 minutes.</p>	Status quo
Posting Requirement	Identification provided in Interconnection Agreement and posted on <a href="http://pjm.com">pjm.com</a>	Status Quo	Status Quo
Transmission Service Requirement	PJM network load customers pay transmission-related costs based on their Network Service Peak Load ("NSPL"). The NSPL is determined by each EDC using EDC-specific procedures that, in general, base the NSPL on the customer load (net of operating BTMG) at the time of specific peak load hours.	Not required	Status Quo

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