

Education on BTMG Load Impacts

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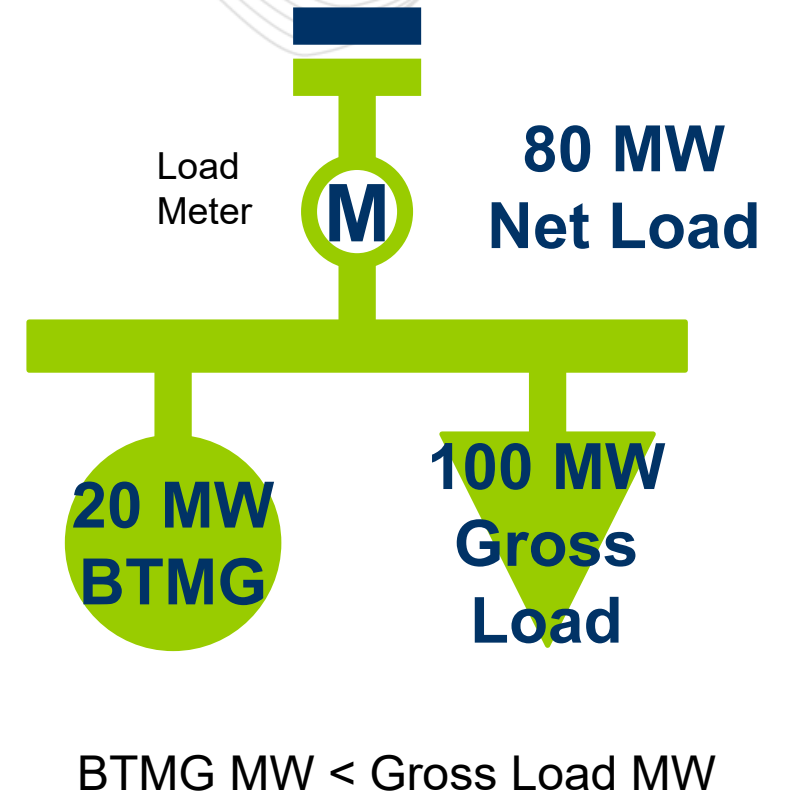
MIC Special Session

BTMG Business Rules on Status Changes

April 30, 2021

M14D, Appendix A – Existing Rule #25:

- Output from operating BTMG is allowed to reduce the actual gross load at retail-end use customer site or at the wholesale area level (in the case of Non-Retail BTMG).
- 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.



Obligation Peak Load (OPL)

- Locational Reliability Charge
- Schedule 9–5 Capacity Resource & Obligation Management Charge
- Generation Deactivation Charge

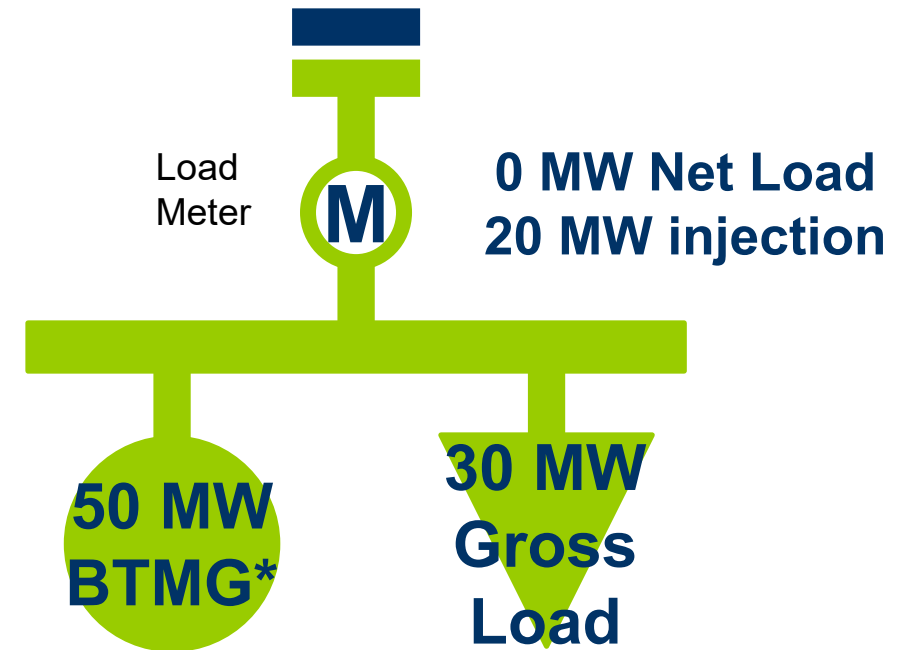
Network Service Peak Load (NSPL)

- Network Integration Transmission Service Charge
- Transmission Enhancement Charge
- Reactive Supply and Voltage Control from Generation & Other Sources Service Charge
- Black Start Service Charge

Scheduled Load or Real-Time Load

- Regulation Charge
- Day-Ahead & Real-Time Operating Reserve Charge
- Synchronized Reserve Charge
- Non-synchronized Reserve Charge
- Day-Ahead Scheduling Reserve Charge
- Reactive Services Charge
- Synchronous Condensing for Post-Contingency Operation Charge
- Transmission Loss Charge
- Inadvertent Interchange Charge
- Meter Correction Charge
- Transmission Owner Scheduling, System Control & Dispatch Service Charge
- Schedule 9-1 Control Area Administration Charge
- Schedule 9-3 Market Support Charge
- Schedule 9- MMU Funding Charge
- Schedule 9-FERC Annual Charge Recovery Charge
- Schedule 9-OPSI
- Schedule 9-CAPS
- Schedule 9-FERC
- Schedule 10-RFC

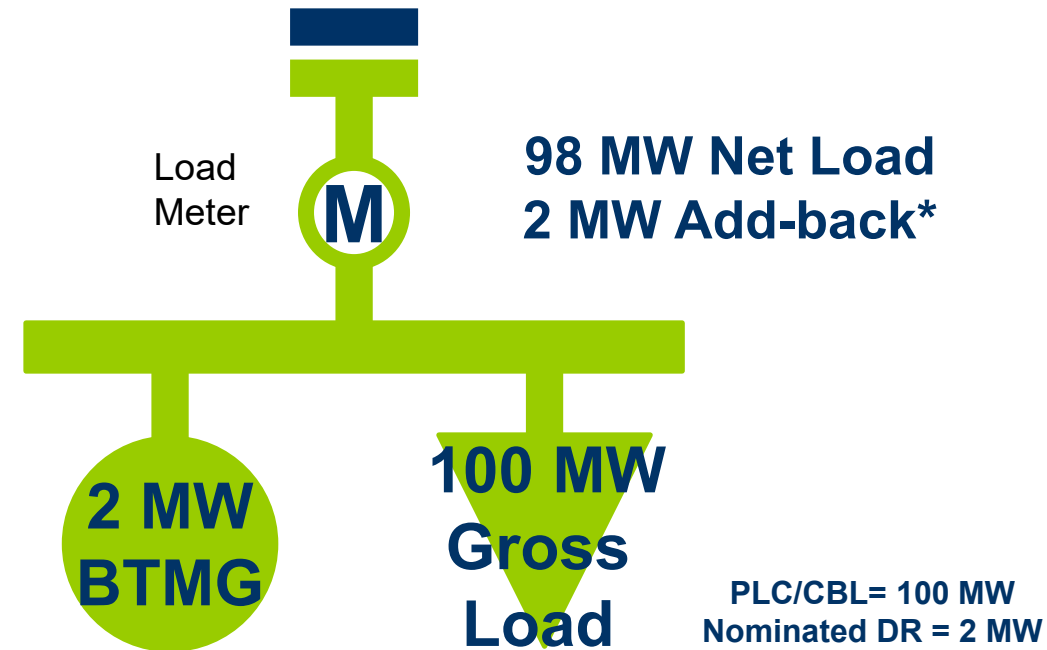
- Operating BTMG nets against the load
- Any portion of the operating BTMG that is injecting may participate in PJM Markets as Generation Resource
- Energy Resource injections are reported in Power Meter as internal generation
- Zonal loads based on summation of ties and internal generation meter values reported in Power Meter



*20 MWs of operating BTMG participating in PJM Markets as Energy Resource

BTMG MW > Gross Load MW

- Operating BTMG is able to net against the load
- Energy Settlements limited to demand reductions that are not implemented as part of normal operations
- *Add-back rules in Manual 19 apply when participate as PJM Emergency/Pre-Emergency Load Response



BTMG MW < Gross Load MW

Reason for Load Drop		PJM-Initiated Emergency or Pre-Emergency Event or CSP-Initiated Test	Economic Event	EDC- or CSP-Initiated Event
Program Registration	Emergency/Pre-Emergency Full (DR) or Emergency/Pre-Emergency Capacity Only (DR)	Load Drop Estimates must be produced for any interruption that occurs during a product-type registration's required availability window set forth in PJM Manual 18 or any interruption outside the required availability window for which such registration received Bonus MWs in the Performance Assessment Hour.	Load Drop Estimates must be produced for any settled interruptions.	No Load Drop Estimates required.
	Emergency Energy Only	Load Drop Estimates must be produced for any interruptions during Emergency/Pre-Emergency hours.	No Load Drop Estimates required.	No Load Drop Estimates required.
	Economic	No Load Drop Estimates required.	No Load Drop Estimates required.	No Load Drop Estimates required.

- Load drop estimates are used to construct unrestricted loads used in the PJM Load Forecast Model, weather normalization of PJM seasonal peaks, and to calculate an unrestricted PLC.

13. A Capacity Resource that changes to BTMG, or a new generator that requests BTMG status will be able to net its full installed capacity value for the first calendar year for transmission and the first Planning Period for capacity. The netting value for all succeeding years will be based on actual generator performance over the 5 CP and 1 CP days.

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Identified gaps:

- Address if “Capacity Resource” was intended to apply to both “Generation Capacity Resource” and “Capacity Demand Resource”.
- Address if rule was intended to apply to both retail and Non-retail BTMG.
- Clarify the ability to net full installed capacity value applies in the determination of LSE’s NSPL or OPL value.
- Clarify the meaning of full installed capacity value.
- Clarify any unit criteria that needs to be satisfied for a NSPL or OPL adjustment to be warranted.



NSPL Adjustment Timeline Generation Capacity Resource to BTMG Status

Generation Capacity
Resource status

BTMG status effective June 1, 2021

JAN. MAR. MAY JUL. SEPT. NOV. JAN. MAR. MAY JUL. SEPT. NOV.

2021

2022

Nov 1, 2020 – October 31, 2021

- Zonal 1 CP hour determined for 2022 CY

2022 CY

- 1st calendar year operates in BTMG status

October 31, 2021

LSE deadline to request NSPL decrease for 2022 CY if operated as Generation Resource during Zonal 1CP hour



OPL Adjustment Timeline Generation Capacity Resource to BTMG Status

Generation Capacity Resource status

BTMG status effective
June 1, 2021

JAN. MAR. MAY JUL. SEPT. NOV. | JAN. MAR. MAY JUL. SEPT. NOV.

2020

2021

Nov 1, 2019 – October 31, 2020

- RTO 5 CP hours determined for 2021 DY

2021/2022 Delivery Year

- 1st Delivery Year operates in BTMG status

October 31, 2020

LSE deadline to request OPL decrease for 2021/2022 DY if operated as Generation Resource during RTO 5 CP hours

New BTMG unit in-service October 1, 2021

JAN. MAR. MAY JUL. SEPT. NOV. JAN. MAR. MAY JUL. SEPT. NOV.

2021

2022

Nov 1, 2020 – October 31, 2021

- Zonal 1 CP hour determined for 2022 CY

2022 CY

- 1st calendar year operates in BTMG status

October 31, 2021

LSE deadline to request NSPL decrease for 2022 CY if unit was not in-service during Zonal 1CP hour

New BTMG unit in-service October 1, 2021

JAN. MAR. MAY JUL. SEPT. NOV. | JAN. MAR. MAY JUL. SEPT. NOV.

2021

2022

Nov 1, 2020 – October 31, 2021

- RTO 5 CP hours determined for 2021 DY

2022/2023 Delivery Year

- 1st Delivery Year operates in BTMG status

October 31, 2021

LSE deadline to request OPL decrease for 2022/2023 DY if unit was not in-service during RTO 5 CP hours

Adjustment to LSE NSPL value

- Corresponding adjustment to Zonal NSPL value

Adjustment to LSE OPL value

- Corresponding adjustment to:
 - Zonal Weather-Normalized Summer Peak
 - RTO Weather-Normalized Summer Peak
 - Zonal Coincident Summer Peaks at 5 CP Hours
 - RTO Coincident Summer Peaks at 5 CP Hours

- Processed requests to adjust NSPL and OPL value for new in-service Non-Retail BTMG units only
- No requests processed to adjust NSPL or OPL value for Capacity Resource (Generation Capacity Resource or Demand Capacity Resource) changing status to BTMG status

- In-service by the October 31 deadline or documentation that supports scheduled in-service date in the month of November by the October 31 deadline
- Unit not in-service during zonal 1CP hour or RTO 5CP hours
- Limit NSPL/OPL adjustment to summer rated ICAP value of unit
- Non-Retail BTMG unit is subject to operational requirements during Maximum Generation Emergency conditions and the expected performance level for the unit is based on the NSPL/OPL adjustment

Applicability of NSPL/OPL Adjustment Requests “Retail” vs. Non-Retail BTMG Units

- Reasonable to apply existing rule #13 to only Non-Retail BTMG units.
- Non-Retail BTMG units that have output that is netted against the load in the determination of NSPL or OPL are subject to operational requirements during Maximum Generation Emergency conditions.
- If adjustment to LSE’s NSPL/OPL is granted, the Non-Retail BTMG is subject to PJM operational requirement and expected level of performance is based on the approved NSPL/OPL adjustment.
- “Retail” BTMG are not subject to any PJM operational requirements.
- If an adjustment to LSE’s NSPL/OPL is granted, a “retail” BTMG has no incentive to be operate during emergency conditions.

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**MIC Special Session - Behind the Meter
Generation Business Rules on Status Changes**



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