



Front of Meter Solar/Storage DER in PJM

Andrew Levitt
Senior Market Strategist, Emerging Markets
Special MIC—DER
April 10, 2017



Hopewell Valley Central High School Solar/Storage pilot

- Owned by Public Service Electric and Gas Company (PSE&G) as part of Solar 4 All program
- 876 kWdc solar + 580 kWh batteries
- PJM services: Regulation, Capacity, Energy
- Non-PJM services: Backup during grid outage



- Energy for charging an Energy Storage Resource is billed at wholesale, rather than as Station Power (which explicitly excludes charging of Energy Storage Resources).
- The Hopewell battery does not qualify as Energy Storage Resource: sometimes serving as backup power for load, it is not “solely used for short term storage and injection of energy at a later time to participate in the PJM energy and/or Ancillary Services markets as a Market Seller” ([OA Section 1](#)).
- Instead it is accounted for under Station Power rules: “Station Power” shall mean energy used for operating the electric equipment on the site of a generation facility located in the PJM Region...” ([OATT 1.1](#))



Manual 14d, Appendix A

- In principle, wholesale load charges such as transmission obligations, capacity obligations, ancillary services, etc., are allocated based on the net of gross load minus the output of “BtMG” that meets PJM rules (see section “Generation Netted Against Load “)
- Rule 12: “A party may change all or a portion of a unit’s capability from Capacity and/or Energy Resource status to BtMG status, or from BtMG status to Capacity and/or Energy Resource status (provided the generator has met the applicable requirements for Capacity Resource status), but cannot be used for both purposes simultaneously for a designated portion of a unit’s capability... 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.
- Rule 17: “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...”
- Any output from front-of-meter MW that offsets load cannot (under these rules) reduce (by netting against load) any wholesale charges (e.g., Peak Load Contribution, transmission obligations, ancillary services obligations, etc).
- The load used for calculating wholesale grid charges is necessarily zero in intervals with outages. Therefore providing backup power during grid outages does not affect any wholesale charges.