Market Approach to Behind the Generator Load (BGL)

MIC   IMM

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Capacity Status

- Capacity available for sale in PJM Capacity Market equal to host generation ICAP net of peak load of BGL. Capacity available for sale in PJM Capacity Market from intermittent or storage resources equal to host generation derated capacity net of BGL. BGL cannot have a contractually defined call on the capacity sold to PJM.

- LSEs pay only for net capacity offered into PJM Capacity Market. BGL pays for the capacity used to provide reliable service to the BGL.

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Capacity Status

- Host generator cannot sell capacity MW in the PJM Capacity Market equal to the behind the generator load (BGL).

- Host generator may retain CIRs only equal to net capacity available for sale in PJM Capacity Market.
  - Gross MW net of BGL peak load

- Current test procedures applied to net capacity.

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Capacity Status

- Capacity must offer requirement applies to ICAP of generation net of peak load of BGL. All host generation resources, regardless of technology, are required to have a capacity market must offer requirement.

- Existing cost development rules for capacity applied to ICAP of generation net of peak load of BGL. Costs associated with interconnecting/serving BGL are not includable.

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Capacity Status: Energy Offers

- Host generators with a capacity commitment must make a cost-based energy offer in the PJM DA and RT energy markets each day equal to the ICAP MW.

- Intermittent and storage resources must make a cost-based energy offer in the PJM DA and RT energy markets equal to their forecast availability.

- Cost-based offers in the energy market must follow existing rules and may not include contract based strike price values.

- The language related to bilateral contracts should be removed from the tariff and should not apply for BGL.

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BGL Status

- BGL not eligible for uplift payments.

- BGL is not eligible to be DR or EE or PRD in energy or capacity markets.

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Capacity Status: ISA

- ISAs must be modified to reflect all obligations of host generator as defined.

- PJM should be required to create a standard ISA for BGL applications so that it can be reviewed in advance and be applied equally to all BGL. Needs to address all ISA issues including frequency and reactive.

- Review of ISA should be part of the stakeholder review process.

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Interconnection Issues

- PJM must require that a BGL trip cannot have a negative impact on the grid, including other load and generation resources. PJM must explain in detail how this process would work, including all PJM control actions. A future study is not adequate. It is a prerequisite.

- Host generator must provide equipment to ensure that a generator trip results in simultaneous BGL disconnection from grid. Must be verified by PJM.

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Interconnection Issues

- Real-time metering and telemetry required for BGL, including reactive and frequency.

- Generator and load contingency modeling/analysis for all possible contingencies.

- Input from TO and affected generation and load.

- Must be done in advance, as a prerequisite to considering the option.

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OATT Applies

- Where existing OATT provisions are included, the rules should be included by reference so that any changes to the OATT rules are automatically incorporated in these rules. All OATT language required to implement the proposal should be provided in advance of stakeholder votes.

- Schedule 2 applies. Any changes to Schedule 2 apply.

- Current rules apply, without exceptions.

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Grid Services

- All BGL is connected to the grid, by definition. Appropriate transmission costs should be defined. Participant host generator must pay for any related transmission upgrades.

- BGS is connected to the grid, by definition. Appropriate ancillary service costs should be defined, including reactive, black start, regulation and reserves and PJM supplied ancillary services.

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Ancillary Services: Reactive

- Reactive capability, D curve, of host generator is net of requirements of BGL. Reactive and frequency requirements of BGL must be defined and the source of the corresponding supply identified.

- Host generator is responsible to provide reactive capability to PJM. Reactive compensation must be linked to available reactive.

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Grid Services

- BGL should pay a share of default charges and PJM administrative charges.

- At least 12 months notice should be required. The PJM tests need to be defined and criteria for acceptance or rejection defined in advance. Study results should be available to IMM. Public version should be made available to PJM members.

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Capacity Status: Jurisdictional Issues

- It is a requirement that the host generator provide evidence from all affected state and local jurisdictions that such jurisdictions have been fully informed of the nature of the proposed arrangement and agree that they do not and will not have jurisdiction of any kind.

- Distribution costs per state law/regulation.

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Under Constellation Proposal

- The ability of PJM to call on the resource must be clearly defined. Any reliability issue. Any type of emergency. PJM authority to commit/schedule/dispatch must be clearly defined. Comparable to PJM's CEJA rights.

- PJM recall rights equivalent to energy exports from capacity resources. Recall should instantaneous.

- The ELCC of any host generator must be evaluated based on providing service to BGL for most hours and therefore not to system. The details of the modeling need to be explicitly defined and made available to IMM and PJM market participants. Impact on ELCC of all resources.

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Capacity Market

- **Could the PJM market design continue to function if 20,000 MW of generation adopted Constellation BGL proposal?**

- **Impact on capacity market prices?**

- **Impact on reliability?**

- **Impact on energy market prices?**

- **Impact on cost of transmission?**

- **Impact on cost of ancillary services?**

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Capacity Market Design (1)

- **Forward looking (three years)**
- **Annual**
- **Locational**
  - **Transmission constraints modeled per CETO/CETL**
- **Sellers must offer all capacity resources**
  - **Capacity resources defined by deliverability test**
  - **Capacity resource MW based on CIRs**
  - **Does not apply to storage, intermittent, DR**
- **Load must buy to meet defined reliability goals**
  - **Administrative capacity market demand curve (VRR curve)**

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Capacity Market Design (2)

- **Definition of product**
  - **Homogeneous**
  - **Energy delivery for 8,760 hours per year**
  - **ELCC for conversion to homogeneous product**
- **Performance incentives**
- **Competitive**
- **Market power and market power mitigation**
- **Role of demand side resources**
- **Role of imports (pseudo tie rules)**
- **Retirements and RMRs**

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Capacity Market and Energy Market

- **Must offer in energy market**
  - **Every day**
  - **Full capacity (ICAP)**
  - **With physical parameters (PLS)**
  - **Firm fuel not required**
  - **Follow PJM dispatch and commitment instructions**
  - **Must offer obligation should apply to all capacity resources without exception, including storage, intermittent, and DR.**

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