

Discussion Proposal for MIC on DER: Ancillary Services with a Hint of Energy and Capacity

MIC DER Session

August 1, 2017

Scope and Goals

- This proposal addresses resources located behind a retail meter.
- Respect jurisdictional boundaries without overlap.

	Distribution System	Transmission System	Wholesale Market
EDC	✓		
TO		✓	
PJM		✓	✓

- Identical treatment for all resources regardless of market participant. This means that merchant resources should have the same requirements as EDC-represented resources such as QF's and net metered injections.
- Intended to stimulate discussion, not as a final proposal.
- Framework intended to work for energy, capacity, and A/S.

Interconnection 1: Distribution

- Distribution interconnection handled by EDC under their tariff.
- PJM tariff should be silent on distribution system requirements.
- Distribution interconnection must be approved or applied for before PJM process starts.
- EDC tariffs should not place conditions on wholesale market participation.
- Resources that are already approved for distribution injection tariffs (e.g., QF's, net metering) do not require a new agreement simply to change their market participation.

Interconnection 2: Transmission

Why a transmission study at all?

- FERC order 2003 has determined that systems that are already injecting should not require further study:
 - “When the owner of a QF that was formerly interconnected to a Transmission System seeks to sell energy at wholesale and represents that the output of its generator will be substantially the same after conversion, it would be unreasonable for a Transmission Provider to require the former QF to join the interconnection queue.” (Order 2003 at 815)
- DERs injecting under retail tariffs do not go through the PJM queue.
- Consensus of Net Energy Metering Sr. Task Force was that net metered projects are not required to apply for PJM interconnection.

Requiring an interconnection study for some resources but not others based solely on who is selling the power appears discriminatory.

Interconnection 2: Transmission

Nonetheless, PJM has stated a strong preference for visibility into DERs. For discussion, we suggest a DER Application that is treated similarly to a SGIP interconnection, except:

- No determination of if injection point is FERC jurisdictional.
- PJM study limited to transmission system.
- Limited power flow and stability analysis, along lines of SGIP procedures (Manual 14A Sect. 3.3.1)
 - Power flow analysis will be performed based on a limited contingency set to identify the impact of the resource on the local system and any known violations in the area. Deliverability tests will only be performed for small capacity resources in areas where margins are known to be limited. Similarly, stability analysis will only be performed for small resources where existing stability margins are limited.
- No facilities study. If transmission upgrades are needed, project no longer falls under these rules.

Interconnection 3: Agreements

It is unclear if any of the standard interconnection agreements are necessary.

- ISA: Covers matters that would fall under the distribution interconnection agreement and associated documents.
- CSA: As projects requiring transmission upgrades do not fall under these rules, not needed.
- WMPA: Similar to ISA.

From this, it appears that no agreements are necessary for a DER to participate in PJM markets. This is similar to the case for demand response, where all terms and conditions are maintained in the Tariff.

As a starting point, we propose that no ISA, CSA, or WMPA are required, and any terms applying to these interconnections reside in the Tariff.

Post-Interconnection Activities

- If a facility at the site is registered in GATS, a courtesy copy of the DER Application is sent to the governing authority for the attributes the site receives. That authority does not approve or reject the interconnection application, but may review eligibility for attributes based on the new information.
- Once DER Application is approved, site registers with PJM as “Injection Approved DR” and follows DR procedures from then on. This includes aggregation.
- EDC reviews just as other DR registrations, but may also:
 - If EDC has not received a distribution interconnection application, reject.
 - If distribution interconnection underway, registration placed on hold.
 - If a QF will sell energy to PJM, EDC must cease purchase of power and approve application.
 - If a net-metered or other facility will sell energy to PJM, EDC should remove facility from any retail rate that would result in double counting and approve application.

Metering

- Any EDC metering requirements as set by their distribution interconnection tariffs.
- EDCs may not impose additional requirements based on a site's decision to participate in wholesale markets.
- PJM metering requirements follow existing DR rules
 - Generally meter at retail billing point, with an exception for regulation.
 - Meter resolution and telemetry depend on market.
- Behind the meter systems greater than 10MW may require telemetry as per existing PJM rules.

Market Participation

DERs participate in PJM markets using a straightforward extension of current DR rules:

- Withdrawals are ordinary retail sales.
- All resources (both DERs and DR) behind a single retail meter are treated as a single resource. Except for sub-metered regulation resources, all compliance is measured at the retail billing point.
- M&V, compliance, and settlement are all handled using existing DR rules, simply treating injections as negative loads.
- Ancillary services provided by DERs do not count towards the caps on DR participation in those markets.