Comparison of interconnection study and market participation agreement processes for wholesale DER

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These slides describe general processes for initiating wholesale market participation for a DER that meets these conditions:

- <= 20 MW
- Found to have no impact on PJM-modeled facilities
- Interconnected to an electric distribution company that is affiliated with a PJM Transmission Owner
  - *E.g., PECO, Ohio Edison, JCPL, Atlantic City Electric, UGI, PPL, EKPC*

Note: process for “non-TO-affiliated EDCs” (many munis and coops) will be covered in future meetings.
- *E.g., ODEC, Vineland, Choptank, Sussex REC*
Icetec Proposal for Existing Energy-only and Capacity DER

**EDC interconnection study of distribution under state jurisdiction**

1. Show completed state-jurisdictional Interconnection Agreement
2. PJM confirms no transmission impact: “similar to SGIP”
3. (+ other criteria) Approve Registration in DR Hub

Enter markets as “Injection-approved” Demand Response
• PJM has filed with FERC to remove the “Alternate Queue” screening
  – Also to remove special rules for allocation of upgrade costs <$5 million.
• The Alternate Queue (and <$5 million cost allocation rule) currently involve assessments that require 6-month queue window to be closed before proceeding.
• If FERC approves removal of the Alternate Queue (and <$5 million cost allocation rule), DER interconnection process may be slightly different.
Status quo with Alternate Queue WMPA process for new DER: State

**EDC interconnection study of distribution under state jurisdiction**

1. Enter PJM Queue and check jurisdiction
2. 6-month Queue window closes
3. PJM: combined feasibility/system impact study confirms no PJM impacts
4. PJM, TO, and customer sign WMPA
5. Show completed state-jurisdictional Interconnection Agreement to effectuate WMPA

FERC: described below

Enter markets as gen

Applicable to DER: a) ≤20 MW; b) no impact on PJM-modeled facilities; c) Interconnected to a TO-affiliated EDC
Post-“Alt-Queue” WMPA process for new DER: State
After removal of Alternate Queue and <$5 million cost allocation rule

**EDC interconnection study of distribution under state jurisdiction**

- Enter PJM Queue and check jurisdiction
- PJM: combined feasibility/system impact study confirms no PJM impacts (~1 year)
- PJM, TO, and customer sign WMPA
- Show completed state-jurisdictional Interconnection Agreement to effectuate WMPA

FERC: described below

Applicable to DER: a)≤20 MW; b) no impact on PJM-modeled facilities; c) Interconnected to a TO-affiliated EDC
**Status quo with Alternate Queue ISA process for new DER: FERC**

**State:**

prior slides

**Enter PJM Queue and check jurisdiction**

**FERC**

**6-month Queue window closes**

**SGIP: FERC-specified screen or study for distribution impacts completed**

**PJM, TO, and DER owner execute appropriate ISA**

**Attachments:**
- Attachment Y (Energy-only): ≤2MW Synchronous, ≤5MW inverter (screen)
- Attachment BB (Energy-only): ≤10kW inverter (screen)
- Attachment N: Capacity or if fail screens (study)

**Applicable to DER:**
- a) ≤20 MW
- b) no impact on PJM-modeled facilities
- c) Interconnected to a TO-affiliated EDC

Enter markets as gen
Enter PJM Queue and check jurisdiction

SGIP: FERC-specified screen or study for distribution impacts completed

PJM, TO, and DER owner execute appropriate ISA

Enter markets as gen

Applicable to DER: a) ≤20 MW; b) no impact on PJM-modeled facilities; c) Interconnected to a TO-affiliated EDC
Status quo “non-queue” process for existing PURPA DER*

*A QF that was formerly interconnected under a state-jurisdictional avoided cost rate or similar under PURPA

**EDC interconnection study under state jurisdiction**

1. Show old state-jurisdictional Interconnection Agreement* and PURPA status
2. Confirm adequacy of attachment facilities and metering etc.
3. Execute ISA (and ICSA if needed)

Note: PURPA may not apply to energy storage

* Interconnected Transmission Owner has completed a review of the impacts to the transmission system during the process of originally connecting the generation facility under the state process.
• Same as new DER
• State-jurisdictional interconnection: TO may require, under state jurisdiction, new Interconnection Agreement to cover change in terms, metering reconfiguration, etc.