



# DER Subcommittee Update & DER Energy Storage Interconnection Use Case



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## Non-wholesale DER observability

Settlement of Wholesale Stored Energy, esp. when co-sited with retail load

## Wholesale DER Market Rules

## DER Aggregation

## Interconnection Queue Process for WMPAs

## Front of Meter / “Utility Owned” Microgrids

# Interconnection Status Quo for Energy Storage Resources Located Behind a Customer's Load Meter



1. Submit appropriate PJM interconnection request application
  - Interconnection jurisdiction check (vast majority will be state)
  
2. Front of meter megawatts (injections) are wholesale;
  - Load (withdrawals) are retail
  
3. No 3<sup>rd</sup> party ownership of generation/storage that uses a load customer's interconnection facilities to wheel power



# 1. PJM Tariff Interconnection Options

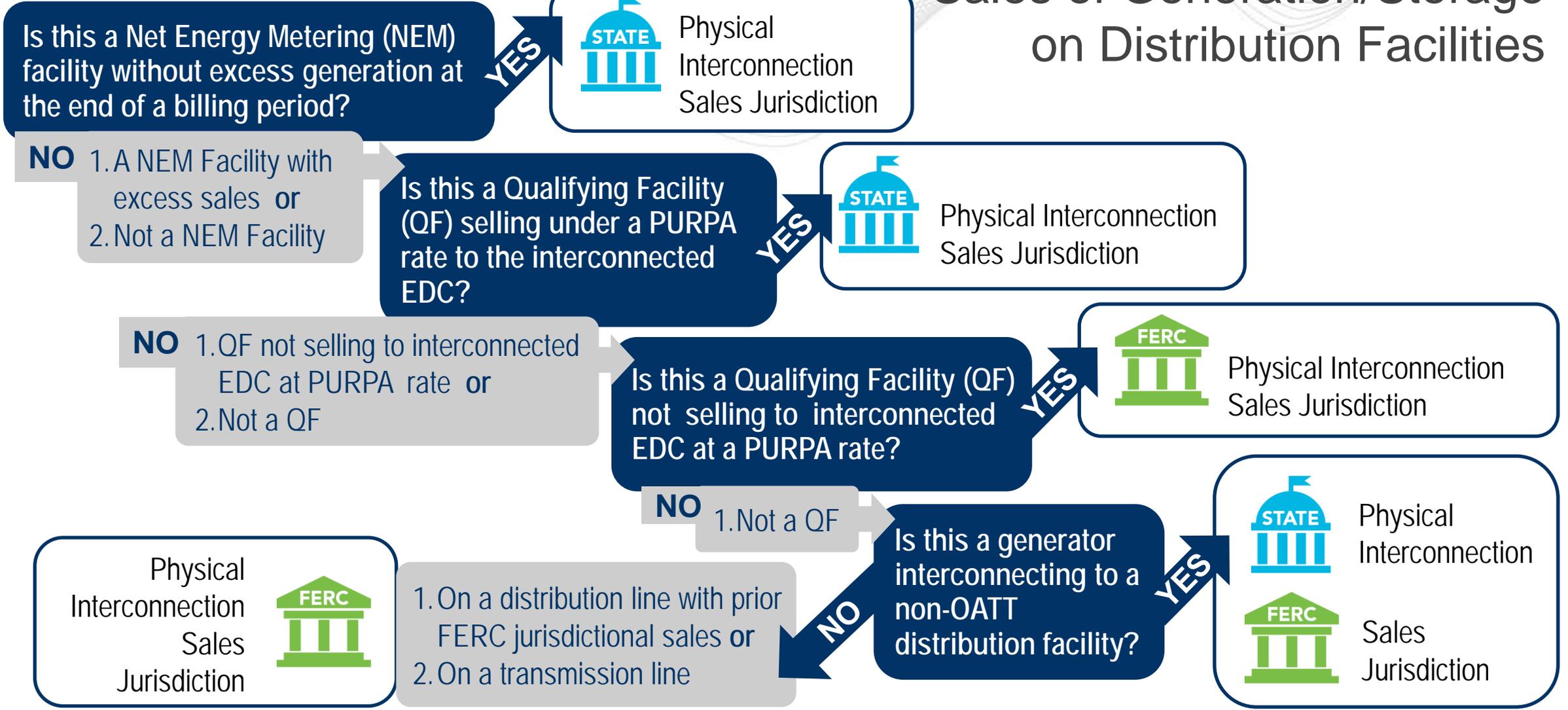
- To participate in front of the meter in the wholesale market, a PJM Interconnection Request is required.
- For PJM Tariff interconnection procedures to apply, request must be FERC jurisdictional
  - If state jurisdictional: final agreement - Wholesale Market Participation Agreement
  - If FERC jurisdictional: final agreement - Interconnection Service Agreement
- Forms of Tariff Interconnection Requests for inverter-based DER generation:

PJM Tariff Attachment	Applicable PJM Tariff Section	Applicable to	Deposit Costs <sup>1</sup>	Tariff Duration from queue window close <sup>2</sup> to ISA Assumes Qualifications Met
BB	112B	≤ 10 kW inverter-based	\$500	23 days
Y	112A	>10 kW & up to 5 MW inverter-based	\$2k/3k/5k	1-3 months
N	110 (Capacity) or 111 (energy-only)	<ul style="list-style-type: none"> <li>➤ 5 MW &amp; ≤ 20 MW inverter-based</li> <li>➤ All Capacity Requests</li> </ul>	\$10k/12k/15k or expected cost in Transmission Owner zone.	4-12 months* * PJM will seek to expedite study process

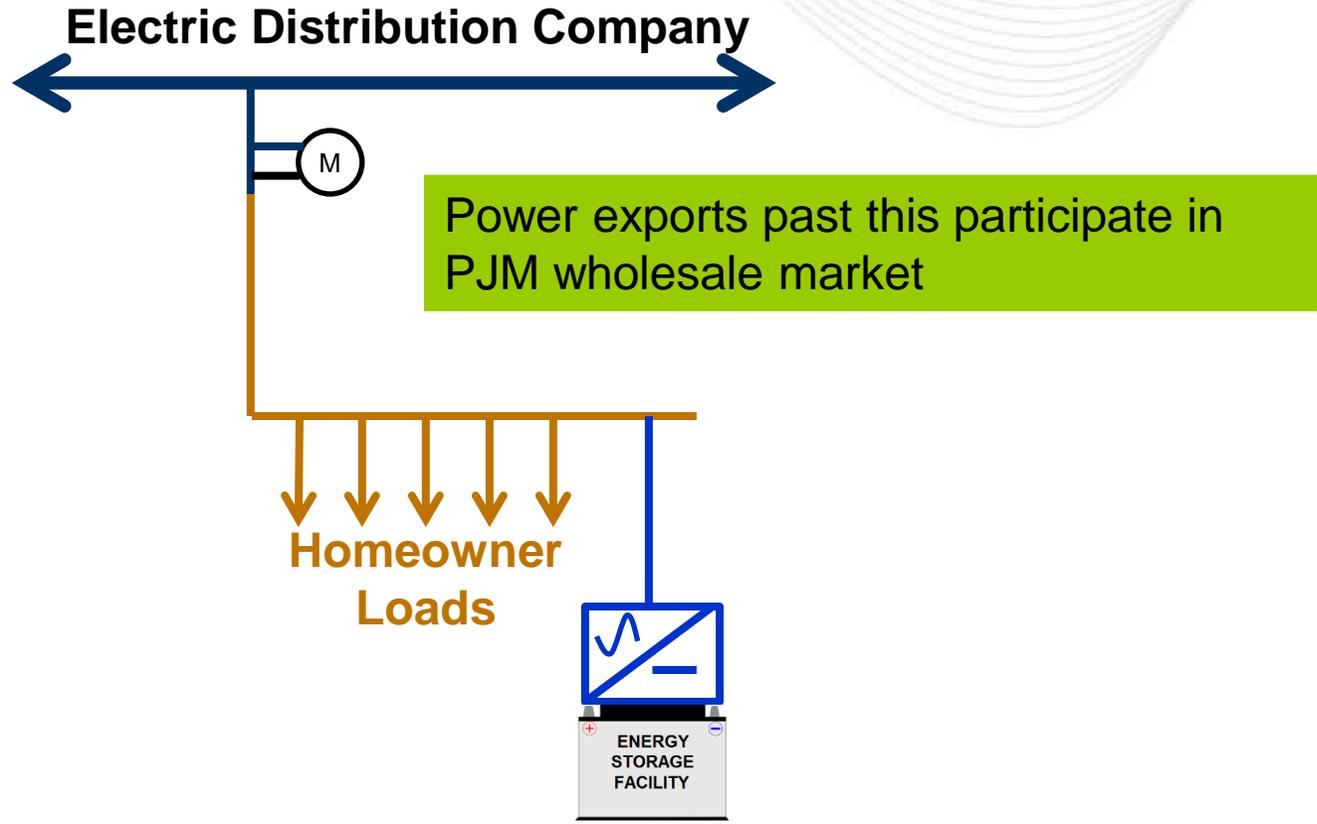
<sup>1</sup> Customer responsible for actual costs: study, agreements, system upgrades, metering, and telemetry.

<sup>2</sup> Special PC Session: New Service Request Study Methods working to remove the need for queue window to close.

# 1. Jurisdiction Over Interconnection and Sales of Generation/Storage on Distribution Facilities

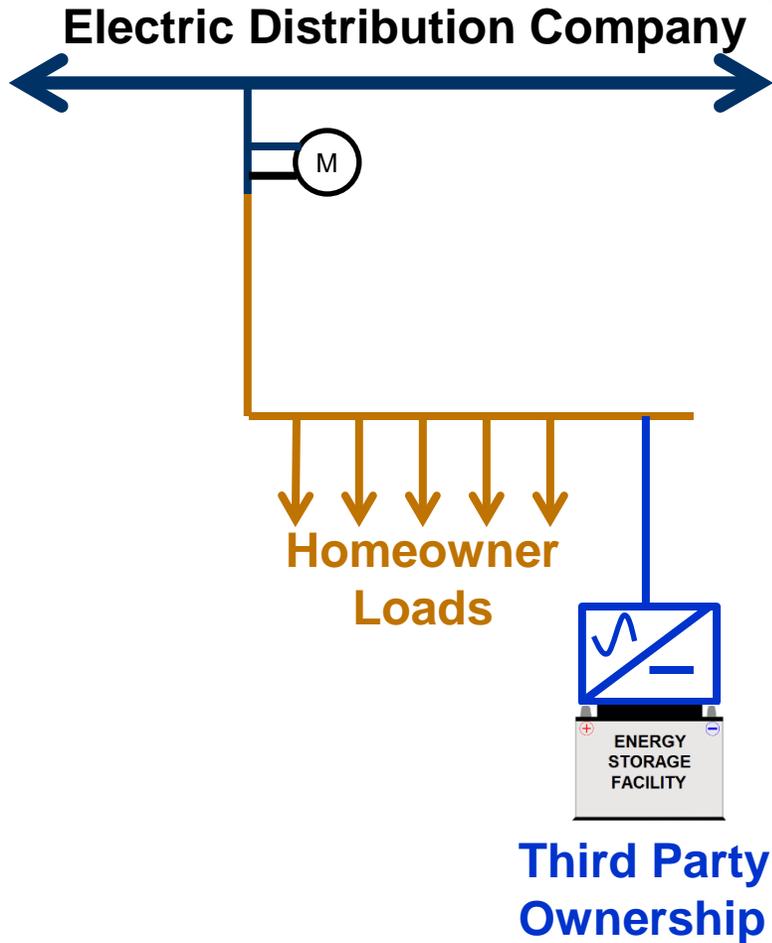


### Generation Metered Wholesale Sales



### 3. Third Party Ownership Infeasible

## Generation Metered Wholesale Sales



**❌ Not Allowed**

**Customer Interconnection Facilities** are “owned and/or controlled, operated and maintained” by **Interconnecting Customer**.

- Failing that, power must be wheeled over third-party lines. This requires 3rd party to be a public utility. Hence: “Not Allowed”

[Education on this topic from MRC 8.24.2016](#)