



# Order 2222: Planning data requirements for DER within an Aggregation

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- With the integration of DERs participating in PJM Markets, PJM's transmission planning and RTEP process is currently being reviewed for any necessary updates to accommodate the DERs. Below are initial positions:

## **Status Quo for retail connected BTM DERs**

- Current modeling represents DER activity on distribution as a reduction to load in the transmission models.
- Netted model may be sufficient for low levels of DER participation but will be inadequate if DERA spurs growth as intended by Order 2222.

## **Concerns with expanded DER participation and continued use of netted generation model**

- Netted generation and loads are not visible to PJM's Planning analyses;
  - Generation and load have different characteristics;
  - Differences impact load flow analyses;
- Introduces reliability risks in scenarios where PJM must serve load

## **Concerns with expanded DER participation and continued use of netted generation model**

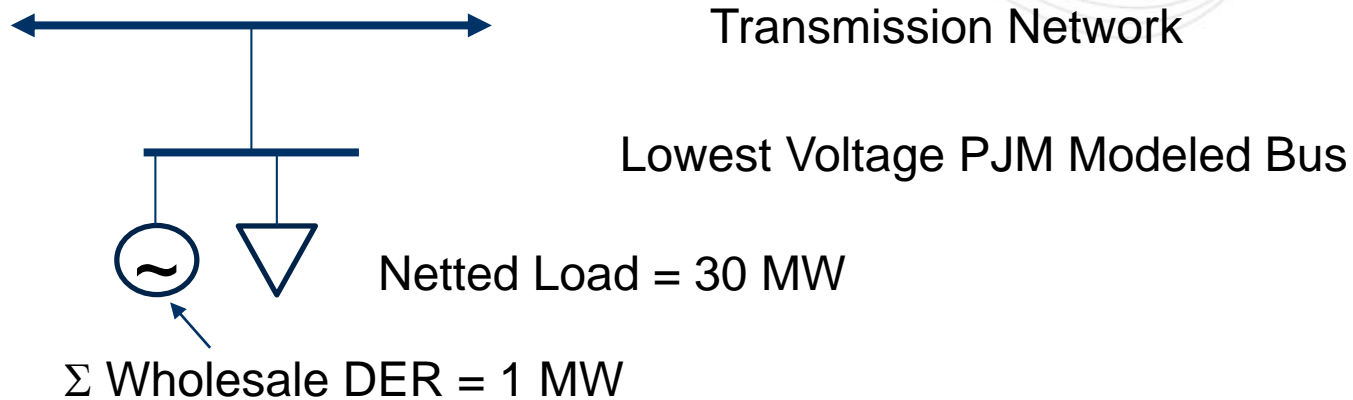
- NERC has issued several recent recommendations against netting; for example:
  - Reliability Guideline: Model Verification of Aggregate DER Models in Planning Studies (March 2021)
  - Reliability Guideline: DER Data Collection for Modeling in Transmission Planning Studies (September 2020)

## Proposed Data Requirements for Planning

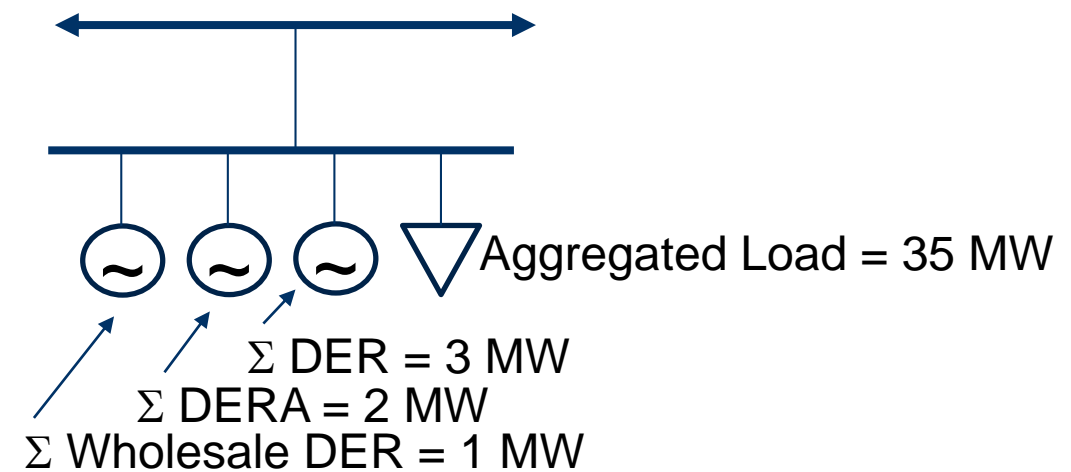
- For each DER within a DER aggregation:
  - Address
  - Technology (solar, battery, landfill gas, wind, hybrid, etc.)
  - Maximum AC output (gross nameplate capability)
  - Interconnected distribution line identification
    - PJM plans to track distribution location and work with Transmission Owner to update transmission model, as necessary (Quality Assurance).
  - PJM Planning Model Bus ID distribution line is fed from
  - Ride through capability enabled? Y/N
  - Voltage control enabled? Y/N
- Both Aggregator and Electric Distribution Company will verify data annually

## Simplified Example of Netted and Aggregated Modeling

Netted (current method)



Aggregated (proposed method)



### Modeling Goal:

For any circuit with aggregate (non-wholesale DER) generation > 1MW, Transmission Owners will provide:

- aggregate load explicitly;
- aggregate DER generation explicitly (by fuel type);
- aggregate DERA participants explicitly separately (by fuel/participation type); and
- contingencies where combined aggregate DERA and DER generation  $\geq$  5 MW, and any aggregate load, can transfer to a different transmission bus.

## **Justification for Planning Data**

- Provides better visibility of load and generation for PJM Planning;
- Improves PJM planning studies and transparency;
- Information should be readily available from participants; and
- Aids PJM in aligning with NERC and industry guidelines.

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