



WGR Definition

Shun-Hsien (Fred) Huang

Resource Integration Department
ERCOT System Planning

Emerging Technology Working Group
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- **Accurate reactive power capability for wind generation resources in the EMS.**
- **Different type/model of wind turbines have different characteristics.**
- **Need to model wind based on type/model.**
- **Challenge**
 - One controller to manage the whole wind farm equipped with multiple types/models wind turbine behind the same POI.
 - Difficult to follow the instruction for each WGR behind the same POI if only one master controller to dispatch all WGRs together.

- **The solution needs to**
 - explicitly model WGRs based on type/model in the EMS to obtain actual reactive power capability for each WGR.
 - allow QSE to dispatch WGRs as a whole behind the same POI.
- **Option1: Enhance ERCOT systems to create a new Wind-powered Generation structure similar to how Combined Cycle Resources are modeled but with specific rules for Wind-powered Generation**
- **Option2: Change Protocol language, Settlements uninstructed deviation logic, and GREDP reporting to allow Wind-powered units behind the same point of interconnect to respond to the sum of unit instructions at a site level rather than individual units**