



Update on ERCOT Proposals for DER in Planning Models

John Bernecker
Manager, Transmission Planning Assessment

October 2020 RPG/PLWG

ERCOT DER Current Practices

Description	DGR / DESR	SODG	Unregistered DG
Required to Register with ERCOT?	Yes	Yes (>1MW) [†]	No
Size	>1MW	Any	≤1MW
Data in NMMS?	Yes	Yes	No
Inclusion in ERCOT Operations Model	Explicitly Modeled*	Mapped to CIM Load	No
SCED Dispatchable?	Yes	No	No
Resource Telemetry Provided?	Yes	No*	No
Embedded in ERCOT Load Forecast?	No	Yes*	Yes*
ERCOT DER Forecast?	No	No	No*

[†]Registration for ≤1MW is allowed, but not required. Limited to 10MW.

*May be modified in the future

Modeling Proposal: Background

- NERC System Planning Impacts from Distributed Energy Resources Working Group ([SPIDERWG](#))
- NERC Reliability Guidelines
 - [DER Data Collection for Modeling in Transmission Planning Studies \(Draft\)](#)
 - [Parameterization of the DER A Model](#)
 - [Model Verification of Aggregate DER Models used in Planning Studies \(Forthcoming\)](#)
- [MOD-032-1 SAR](#)
 - Proposed revision to address gaps in data collection for modeling DER
- [AEMO DER Integration](#)

Stakeholder Discussions on DER Proposals

July 2020

- Long-term proposal shared with SSWG

September 2020

- Updated RPG on activities
- Evaluated feedback from SSWG/DWG

November 2020 (tentative)

- Discuss long-term proposal at DWG
- Discuss updates to DWG procedure manual

August 2020

- Near-term proposal shared with SSWG
- Long-term proposal shared with DWG

October 2020

- Present near-term proposal to RPG/PLWG
- Discuss updates to SSWG Procedure Manual (tentative)

Near-Term DER Modeling Proposal

- Intended to provide visibility of DER in planning cases, achieve consistency in representation of various types of DER, and avoid double-counting of DER impacts prior to implementation of a long-term solution
 - No aggregation in the near-term due to tool limitations
 - Unregistered DG not modeled as generators due to data limitations

Near-Term Proposal: DGR

- DGR should not be modeled as negative load by TSPs nor embedded in TSP load forecasts
- Each DGR to be modeled by ERCOT as a generator using existing SSWG case build procedures
- DGR IDs to follow the existing SSWG convention
- DGR to be committed and dispatched using current SSWG methodology

Near-Term Proposal: SODG

- SODG should not be modeled as negative load by TSPs nor embedded in TSP load forecasts
- Each SODG to be modeled as a generator using a simple model based on its Resource Registration data
 - Similar to the process for modeling planned generation meeting the requirements of Planning Guide Section 6.9(1)
- SODG assumed to operate at unity power factor without automatic voltage control

Unit ID	Resource Type	Commitment / Dispatch
JA	Battery	Offline
JB	Solar	Consistent with CDR solar percent capacity contribution
JC	Natural Gas	Offline
JD	Diesel	Offline
JE	Wind	Consistent with CDR wind percent capacity contribution
JF	Landfill Gas	Full capacity
JG	Hydro	Consistent with CDR hydro percent capacity contribution
JH	Other Inverter	Offline
JI	Other Sync	Offline

Near-Term Proposal: Unregistered DG

- Unregistered DG should be embedded in TSP load forecasts
- No other changes to current SSWG case build process

Implementation Timeline

- Long-term proposal depends on features included in the Passport Program



- Near-term proposal tentatively planned for implementation in June 2021 SSWG cases
- Some data / functionality needed for the long-term proposal may be available prior to 2024
 - Potential for a mid-term proposal
- Comments or questions can be directed to John.Bernecker@ercot.com

DER-Related Revision Requests

Request Number	Title	Status
NPRR1016	Clarify Requirements for Distribution Generation Resources (DGRs) and Distribution Energy Storage Resources (DESRs)	Approved by Board of Directors (August 2020)
PGRR082	Revise Section 5 and Establish Small Generation Interconnection Process	Pending at ROS
NOGRR212	Related to NPRR1016, Clarify Requirements for Distribution Generation Resources (DGRs) and Distribution Energy Storage Resources (DESRs)	Approved by Board of Directors (August 2020)
RRGRR026	Related to NPRR1016, Clarify Requirements for Distribution Generation Resources (DGRs) and Distribution Energy Storage Resources (DESRs)	Approved by Board of Directors (August 2020)