



# **Transient Security Assessment Tool (TSAT) Data Requirement Update**

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## RRGRR021 TSAT Requirement

- Effective August 1, 2020, Resource Entities for all existing and new Generation Resource or Settlement Only Generator (SOG), including a storage device are required to submit TSAT dynamic models for the ERCOT operations model
- Resource Entities with IRRs that have PSSE user-defined models are required to review these models and submit TSAT user-defined dynamic models
- TSPs are required to review the PSSE user-defined models for existing transmission equipment (dynamic reactive devices etc.) and submit TSAT user-defined dynamic models

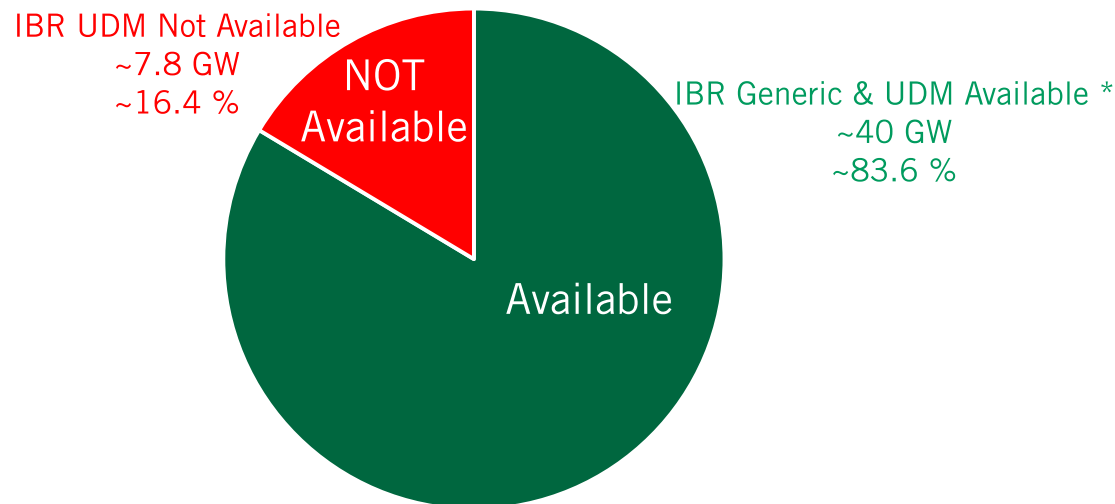
## TSAT User-Defined models

- Generation Resources or SOGs, including a storage device that have provided a user-defined planning model (in PSSE) are required to provide the same user-defined model for TSAT operations model
- Generic TSAT models are **NOT acceptable** where GRs have submitted user-defined models for planning model (PSSE)
- Both planning (PSSE) and operations (TSAT) user-defined model should use (read) the same dynamic model parameters (dynamic data format dyr file)

# Real-time TSAT – Model Deficiencies (as of November 30, 2021)

- Models for Inverter-Based Resources (wind, solar, battery) often use user-defined code (those user-defined models submitted for PSSE)
  - Generic equivalent representations in TSAT are not suitable for ERCOT regions with low system strength
  - Total Inverter-Based Resources (IBR) capacity ~ 47.8 GW

IBR Model Availability in TSAT



\* Models are still being validated and some of them have been returned to REs for corrections as their performance were not consistent with PSSE models

## RRGRR021 Timeline

- ERCOT announced at the March 4, 2021, ROS meeting that it would refrain from reporting non-compliance with the TSAT model submission requirement to the Public Utility Commission until November 1, 2021.
- On October 1, 2021, ERCOT sent an email to each impacted RE and provided the status with respect to their Generation Resource(s) and/or SOG(s) for TSAT model requirement.
- On November 3, 2021, ERCOT started reporting non-compliance with the RRGRR021 TSAT model submission requirement to the Public Utility Commission.

Questions?

