



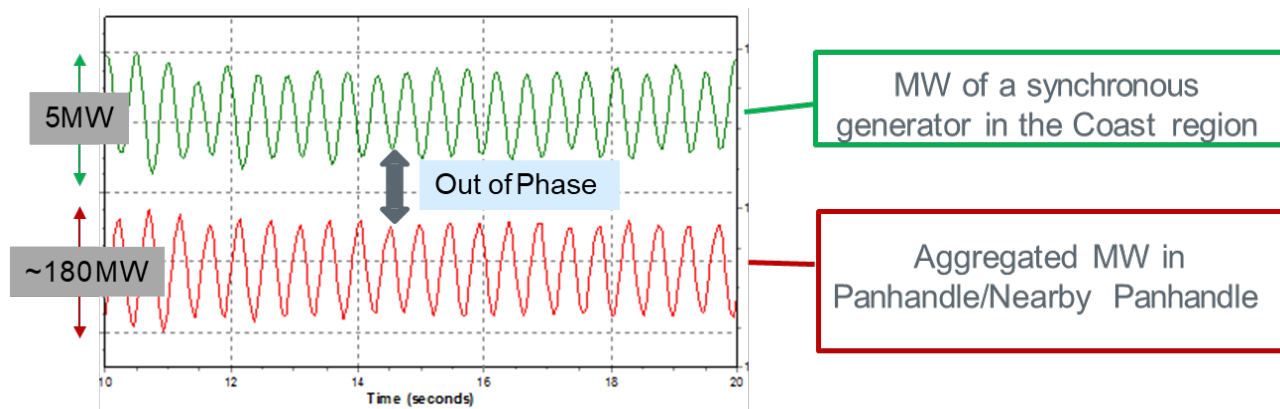
IBR Damping Support Revision Request Update

John Schmall
ERCOT Transmission Planning

Resource Integration Workshop
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Background

- Synchronous generators with power system stabilizer (PSS) provide damping to the system oscillation in the range of 0.2-2 Hz.
- Under high renewable output conditions, limited/no synchronous generators in west Texas lead to insufficient damping support needed to maintain stability during and after the disturbances.
- Increasing need of damping support to maintain acceptable dynamic responses with high renewable power transfer.



Observed oscillatory responses in the Panhandle dynamic studies. Synchronous condensers identified as primary participants.

Proposed IBR Damping Support

- Draft language (NOGRR, NPRR & PGRR) posted at July Resource Integration Workshop meeting page:
<http://www.ercot.com/calendar/2020/7/28/205460>
- Summary
 - Establish Power Oscillation Damping (POD) settings to damp oscillation modes within the range of 0.2 Hz to 2 Hz
 - Expectation that appropriate POD settings can be determined without detailed system model (similar to PSS for synchronous machines)
 - Shall keep POD in-service
 - Send to ERCOT, via telemetry, the POD status
 - Shall conduct a POD test or verify POD performance based on operational data for the purpose of model verification on PODs
 - Not required to maintain headroom in normal operation (no requirement to maintain headroom in the language)
 - Two year implementation period (end of 2022)

Next Steps and Tentative Schedule

- Incorporate any further stakeholder feedback
- Submit Protocol/Guides revision requests in September, 2020

Comments are welcome

Shun Hsien (Fred) Huang, shuang@ercot.com

John Schmall, John.Schmall@ercot.com