

CASE STUDY



Measure and estimate regional inertia and system strength

Problem:

- Conventional generators, like gas plants, provided grid stability by providing inertia (frequency stability) and system strength (voltage stability)
- With increased penetration of grid following inverter-based resources (IBRs), inertia and system strength are decreasing and can reach critical limits during some conditions causing grid instability issues

Potential Solution:

- Monitor system strength and inertia in real time using real-time measurement data from streaming phasor measurement units (PMUs) or other model-based techniques.

Benefit:

- Grid reliability, avoid system instability and possible cascading blackout



Timeline



Market survey

Explored vendor's capabilities to meet the requirements



Testing the Idea (POC)

Selected a vendor and started testing



Implementation

Integrate into production environment and operations



Operations guideline

Operations procedures to maintain inertia and/or system strength

