Operation of South Australia with 4 Synchronous Condensers

December 2021

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We acknowledge the Traditional Owners of country throughout Australia and recognise their continuing connection to land, waters and culture. We pay our respects to their Elders past, present and emerging.

Agenda

1. Where we are at
2. On going power system requirements for SA
3. Next steps
4. Q&A

Where we are

SA System Black

System Strength and Inertia Gaps Declared

Directions in place to address gaps

Synchronous Condensers Approved

Synchronous Condensers Commissioned

Distributed Solar Increasing by ~20 MW per month

Inverter based resources also continue to be developed

On going power system requirements for SA

Why we are still requiring two units

Control of power flows

- Maintain power system limits for sudden changes on the power system

Voltage

- Maintain reactive support for central/metro region of SA

RoCoF obligations in SA

- Power system recovery post event – initial, after 2 and 10 minutes
- Need to maintain a frequency and voltage reference. Not proven in a GW scale power system

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Next Steps

We are actively seeking through this work to get to a point where the market can provide adequate system security through the existing regulatory framework

- Objective: Be able to operate SA with minimal market intervention
  - NSCAS assessments
  - PSFRR, GPSRR and Protected Event assessment
  - Assessment of market capability with new participants
  - Development of models and processes to handle high penetration of PV
  - Power system analysis to ensure frequency and voltage reference issue
  - Testing of South Australian power system in absence of synchronous generators
- Industry Engagement
  - Will be providing quarterly public updates
  - Please reach out if you would like to engage

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Questions

- Additional Information
  - Contact AEMO for further questions and feedback
    - stakeholderrelations@aemo.com.au
  - Congestion Information Resource (Limits)
    - https://aemo.com.au/energy-systems/electricity/national-electricity-market-nem/system-operations/congestion-information-resource/limits-advice
  - Information on Synchronous Condensers
    - https://aemo.com.au/energy-systems/electricity/national-electricity-market-nem/system-operations/congestion-information-resource/related-resources/operation-of-davenport-and-robertstown-synchronous-condensers

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For more information

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