

South Australia Blackout 28 Sept 2016 – nationalgrid

update on Jan 2017 GCDF item

- Following the SSE Generation presentation to GCDF in Jan 2017, a survey was agreed with stakeholders and then progressed through the Grid Code Governance Team. This was circulated in March 2017 and three responses were received.
- Further information regarding conclusions on the causes of the South Australia fault was received over summer 2017 and following the publication of the [final report](#) on the blackout from the Australian system operator (AEMO) in March 2017.
- In summary:
 - During a period of severe adverse weather 3 transmission circuits in the South Australia area faulted.
 - A number of windfarms within the area experienced protection lock-out due to the number of voltage disturbances/faults 'seen' by their protection which had arbitrary repeat lock-out settings.
 - The combined result was that an interconnector to the area overloaded thermally and tripped.
 - The area was then islanded and, with generation and demand in the islanded area very unequal, system frequency in the island could not be sustained resulting in a blackout.
 - A contributory factor to the experience of multiple faults is likely to have been low system inertia that led to increased volatility and potentially an increased number of fluctuations clocking as fault events.
- Following clarification from the respondents on the confidentiality of their responses, redacted versions of these were circulated to the panel in late 2017.
- The Grid Code at present is silent on multiple instances of faults. The SQSS requires withstand of credible scenarios. A reasonable interpretation of this would be that equipment should be able to remain connected within its technical limitations (likely to be determined for convector based technology by the thermal capacity of their inverter).
- National Grid are continuing to review operational scenarios in severe weather conditions and consider whether any additional operational measures could need to be taken.
- The survey information is incomplete and National Grid are considering following this up with all owners/developers of equipment connected to the system via converters.