

9 February 2017

Australian Energy Market Commission  
PO Box A2449  
Sydney South NSW 1235

Dear Mr Pierce,

**RE EPR0053 – System Security Market Frameworks Review**

Thank-you for the opportunity to make a submission to the System Security Market Frameworks Review, Interim Report released by the Australian Energy Market Commission (AEMC) on 15 December 2016.

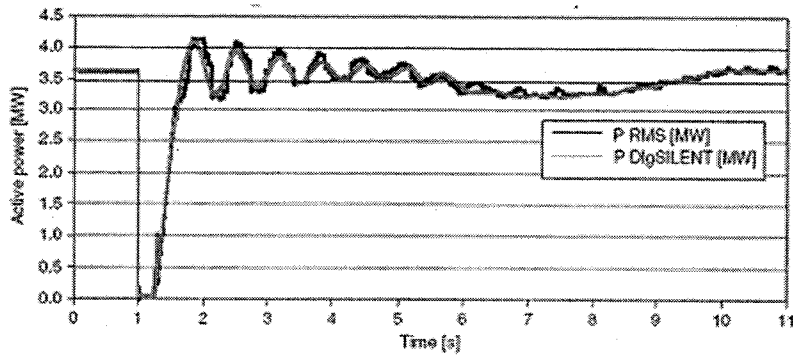
We contributed to the development of, and fully support, the Energy Networks Australia submission. The purpose of this submission is to highlight some key issues that have more significance in the Tasmanian region.

The Interim Report proposes a number of mechanisms for managing system security. TasNetworks believes that the Tasmanian Frequency Operating Standard (FOS) is another mechanism that could be used to help manage system security, specifically the Rate of Change of Frequency (RoCoF) issue, in Tasmania. The Tasmanian FOS limits the generator event contingency size to 144 MW but a network event is uncapped. Consideration could be given to introducing a limit to the contingency size for network events as a way to manage the size of incidents that impact on the system.

TasNetworks believes any regulatory solutions contemplated should take account of existing off-market and unregulated control schemes. These are particularly relevant in Tasmania where system stability is managed through system protection schemes (SPS) and generator contingency schemes (GCS).

Given that there is presently only a single supplier for cost-effective inertia in Tasmania, there may be value in ensuring that any procurement/supply mechanism for inertia or Fast Frequency Response (FFR) will, in the Tasmanian context, best satisfy the National Electricity Objective (NEO), as opposed to simply adopting a national approach that advances the NEO in most situations.

The interim report does not appear to take account of the energy deficiency created at the initiation of system events due to the fault ride through (FRT) response of some inverter based equipment. As shown in the figure below, immediately after an incident, active power decreases before returning to its original value within a second. This sudden drop in power can be significant in Tasmania where both Basslink and the wind farms, which in total equate to 788 MW, will respond in this manner.



Source: Fig 6 Active Power output of Wind Turbine Generators, Fault Ride-Through Capabilities of Siemens Full-Converter Wind Turbines; R. J. Nelson, Member, IEEE, H. Ma, Member, IEEE, and N. M. Goldenbaum; 2011 IEEE Power and Energy Society General Meeting.

We thus recommend that the specification of an inertia requirement should be based on the post contingent inertia. That is, the largest single source of inertia should be removed from the inertia requirement as it may be the contingent event creating the disturbance.

In the Interim Report, the AEMC states that one of two ways to manage RoCoF is to constrain contingency size (page 24). TasNetworks believes a better way to manage the issue, as is currently done in Tasmania, is to directly constrain RoCoF to provide an opportunity for potential co-optimisation within AEMO’s National Electricity Market Dispatch Engine (NEMDE). Thus, FCAS, Inertia, FFR as well as all off-market solutions/systems can be accounted for in determining the most efficient solution to the overall situation.

At the bottom of Page 46 of the Interim Report, it states that regulatory measures should not be developed to deal with issues in a specific region. We are not comfortable with this approach as there may be some solutions that can be implemented in Tasmania, due to the nature of the power system participants, which are not relevant in other regions of the NEM. While TasNetworks would not suggest that these local opportunities should be mandated in a national scheme, we believe the NEO may be best served by ensuring the national regulatory measures don’t prevent or inhibit local or jurisdictional innovative solutions.

If you have any questions in relation to the issues raised please contact Tim Astley on (03) 6271 6151 or via email [Tim.Astley@tasnetworks.com.au](mailto:Tim.Astley@tasnetworks.com.au).

Yours sincerely

Kirstan Wilding  
Regulation Leader