S&C ELECTRIC COMPANY
Excellence Through Innovation

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Sebastien Henry
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Our Ref: JC 2017-024

8 August 2017

Dear Sebastien,

S&C Electric Company response to Managing the Rate of Change of Power System Frequency (ERC0214)

S&C Electric Company welcomes the opportunity to provide a response to the draft determination and draft rule for managing the Rate of Change of Power System Frequency.

S&C Electric Company has been supporting the operation of electricity utilities in Australia for over 60 years, while S&C Electric Company in the USA has been supporting the delivery of secure electricity systems for over 100 years. S&C Electric Company not only supports "wires and poles" activities but has delivered over 8 GW wind and over 1 GW of solar globally. S&C Electric Company has been actively engaged in deploying Battery Energy Storage Systems for over 10 years, supporting a full range of business models and using a range of battery technologies, at the kW and MW scale, and currently has 76 MW/189 MWh in operation. In Australia, S&C projects include the Ergon Grid Utility Support System in Queensland, which reduces peak loads and provides voltage support on rural Single Wire Earth Return lines and the 2 MW battery for PowerCor in Victoria.

S&C Electric are particularly interested in facilitating the development of markets and standards that deliver secure, low carbon and low cost networks and would be very happy to provide further support to the Australian Market Energy Commission on the treatment and potential of these technologies.

Yours Sincerely

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Response

We are strongly supportive of both the approach outlined in the Draft Determination of 27 June 2017 and the Draft rule, which place an obligation on the TNSPs to maintain a minimum and secure level of inertia in their networks.

We look forward to understanding the forthcoming work that AEMO will need to undertake to determine TN sub-regions and the determination of minimum and secure levels of inertia for each of those sub-regions.

We are pleased to see that the AEMO recognises the potential cost-efficiencies of allowing the TNSPs the opportunity to invest in network assets that may have multiple purposes, such as electricity storage, and also supports the opportunity for third party assets to deliver inertia or inertia-like services.

The newly proposed Generator Reliability Obligation (GRO) may have an interaction with frequency services, particularly if the technology used to provide reliability is a battery, which could then also provide fast frequency response. The GRO could be procured by a non-synchronous generator from a third party, rather than through investing in new reliability, either on the same site as the generator or elsewhere in the affected network. We would support approaches to a GRO and to the provision of inertia that maximise cost-efficiencies.

While we recognise that a least regrets and cautious approach to providing minimum inertia through mechanical inertia only may result in better system security, reducing the role of a new fast frequency response service to only delivering that inertia above minimum inertia to a cap of the secure inertia level, where such a difference exists, will limit the opportunities to explore the role non-mechanical inertia can have in the system of the future.

Fast frequency response services, such as the Reg D signal in the PJM market (USA) and Enhanced Frequency Response (UK), are already contributing to frequency control in other countries, often delivering the service with cost-savings to end consumers.

Given the varied physical nature of the various regions of the NEM, a fast frequency response of a given capacity and speed may have very different impacts on the system in a particular region. This is a peculiarly Australian challenge, but it may be necessary undertake trials to gain an understanding of how fast frequency response would impact on each region.

Additionally, we hope that the AEMO assessment of minimum and secure inertia in each sub-region will occur after the resolution of any issues arising from the numerous current reviews of frequency control in the NEM, particularly those related to deadband/governor settings. We agree that a decision on ERC0208 Inertia Ancillary Services Market should be delayed until a proper understanding of frequency control more broadly is obtained.

The Ancillary Services Technical Advisory Group meets tomorrow (9 August), so it is not possible to consider the findings of the DIgSILENT work, but we would anticipate that the work of this group will be central to the AEMO assessment of inertia requirements.