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ElectraNet

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Attention: Hugo Klingenberg

Dear Hugo,

**SUBMISSION TO SOUTH AUSTRALIAN ENERGY TRANSFORMATION (SAET)
PROJECT SPECIFICATION CONSULTATION REPORT (PSCR)**

Thank you for the opportunity to submit on ElectraNet's consultation for the South Australian Energy Transformation PSCR. The market modelling and supplementary information papers published by ElectraNet are a positive initiative in providing transparency for those interested in participating in this Regulatory Investment Test for Transmission (RIT-T) process.

AEMO has a number of roles relevant to this consultation:

- National Electricity Transmission Planner
- National Electricity Market (NEM) system and market operator
- Victorian Transmission Network Service Provider (TNSP)

In the 2015 and 2016 National Transmission Network Development Plans (NTNDPs), AEMO highlighted the emerging system resilience challenges relating to South Australia's changing energy mix. AEMO therefore supports ElectraNet's RIT-T process, and considers it to be an appropriate response to these challenges. AEMO is also actively supporting the AEMC's System Security Market Frameworks Review and the Essential Services Commission of South Australia's review of technical standards for inverter-connected generators, which will both complement the optimal outcome of this RIT-T.

Supplementing interconnector options to address system strength

The identified need includes a requirement to provide system resilience, including system strength, as South Australia transitions to a low carbon future. AEMO agrees this is a priority, and its 2016 NTNDP identified an 'NSCAS gap' in South Australia relating to system strength. The proposed interconnector options present solutions to increase transfer capacity, but will not specifically address system strength. AEMO suggests that the proposed interconnector options should be supplemented with distributed services (e.g. synchronous condensers) so that the identified emerging system strength challenges can be addressed effectively.

Wholesale pricing in the identified need

The National Electricity Rules (NER) requires that a RIT-T should identify the solution for an identified need that "maximises the present value of net economic benefits to all those who produce, consume and transport electricity in the market". ElectraNet's identified need includes an outcome of lower wholesale electricity prices in South Australia, which could result in a preferred option that is potentially inconsistent with the RIT-T objective. By making regional wholesale pricing a specific element of the identified need, there is a risk that other

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cost elements (including network costs) might not be equally weighted. This in turn risks excluding a range of potentially cheaper non-network solutions. AEMO therefore suggests that the specific wholesale pricing driver be removed from the identified need.

Evaluating system resilience

AEMO supports ElectraNet's use of a combination of market and system resilience benefits (called "system security benefits"). AEMO suggests that the SAET should address the following important considerations:

- Whether any proposed interconnector option can deliver system resilience without operating below capacity or relying on control schemes and distributed services, and the resultant impact on potential market benefits.
- Ensuring that system resilience benefits are not double-counted with other market benefits (i.e. fuel cost savings).
- Describing and proportioning system resilience benefits against the components that deliver those benefits.

Additionally, AEMO suggests that ElectraNet's Project Assessment Draft Report (PADR) should provide a technical assessment to demonstrate the effectiveness of the preferred solution in withstanding various contingencies¹.

ElectraNet's SAET reports discuss the benefits of increasing resilience to survive a loss of the Heywood interconnector at its planned capacity of 650 MW. The Heywood interconnector has historically tripped at near 900 MW following the sudden loss of multiple generators in South Australia. AEMO suggests that the loss of multiple generators within the South Australia region should also be considered when assessing a system resilience benefit.

As a part of our Future Power System Security program, AEMO intends to publish information on generator Rate of Change of Frequency (RoCoF) withstand capability by mid-2017. AEMO suggests that this information should be considered in ElectraNet's system resilience assessment.

Should you have any questions in relation to this submission, please contact Mr Elijah Pack on (07) 3347 3995.

Yours sincerely

Christian Schaefer
Manager Network Planning

¹ Historically relevant non-credible contingencies include loss of the Heywood interconnector and loss of 500 MW of South Australian generation.