

18 January 2018

Mr Sebastian Roberts  
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Dear Mr Roberts

### **TransGrid Transmission Determination 2018-23 Network Support and Control Ancillary Services**

Thank you for considering this late submission on the AER's draft transmission determination for TransGrid for the 2018-23 regulatory period.

AEMO's submission is limited to aspects of the draft determination relating to the network support and control ancillary services (NSCAS) that AEMO currently acquires from TransGrid. The NSCAS contract expires on 30 June 2019.

AEMO understands that the draft determination proposes to:

- Include the shunt reactors and associated equipment (Reactors) that currently provide NSCAS for voltage control in southern New South Wales in TransGrid's regulatory asset base (RAB) from 1 July 2019.
- Assign zero capital value to the Reactors in the RAB.

AEMO is not in a position to comment on the appropriate regulatory valuation for the Reactors. This submission seeks instead to explain the continuing need for voltage control in that part of the network, and the possible consequences if the Reactors are not available to perform that function after June 2019.

#### **Original NSCAS gap**

High voltage limitations have been an issue for many years in southern NSW, at the Upper Tumut and Kangaroo Valley substations. These conditions typically occur under light load conditions, often overnight. Absent other changes in the network, AEMO expects these high voltage limitations to remain indefinitely. They must continue to be managed in order to maintain power system security.

For several years, Snowy Hydro provided reactive power absorbing capability to NEMMCO/AEMO via its Tumut and Murray units, which can operate in synchronous condenser mode.

The NSCAS regime in the NER changed in 2011 to make transmission network service providers (TNSPs) primarily responsible for meeting NSCAS needs. In 2011, AEMO declared an NSCAS gap from the expiry of the then-current Snowy Hydro contract. As described in the AER's draft determination, TransGrid informed AEMO that it would be unable to meet the gap until 2015, and AEMO proceeded to conduct an NSCAS tender. TransGrid's offer provided the lowest cost service, and offered what AEMO considered to be a long term solution to address these high voltage limitations. With the capability to manage the high voltage limitations installed within the transmission network itself, and rolled into TransGrid's

RAB from July 2019, there would be no further need to acquire voltage control services after that time.

### **No further NSCAS gap forecast**

Under the National Electricity Rules, AEMO's role in procuring NSCAS is limited. AEMO must identify any forecast 'NSCAS gaps' in its annual National Transmission Network Development Plan. An NSCAS gap is a need to control active or reactive power flows into or out of a transmission network, arising within a 5-year horizon. The relevant TNSP has the primary responsibility for meeting an NSCAS gap. AEMO only procures NSCAS to the extent that the TNSP is unable to do so, and only where the requirement impacts the ability to maintain power system security and reliability.

As noted, when the NSCAS contract expires, the transmission network will have the capability to control reactive power to manage these voltage issues, provided the reactors continue to be operational. This would be part of TransGrid's prescribed transmission service, rather than a continuing NSCAS. AEMO notes that reactive support requirements are likely to increase in future as generation technologies change and existing synchronous generation is displaced, but AEMO expects these would be managed by the TNSP through appropriate investment and maintenance.

On the basis that no NSCAS gap is currently forecast from July 2019, AEMO considers it has no remit to continue to acquire further voltage control services from TransGrid or any other potential provider.

### **Operational alternatives**

Should TransGrid decline to operate the Reactors when required to maintain power system security, AEMO's only feasible alternative is to direct Snowy Hydro and Kangaroo Valley generating units to operate in synchronous condenser mode. Line switching in the area could reduce the quantity of generation directed, but some direction would almost always be required, and this would happen frequently.

As the AER will appreciate, this would represent a significant intervention in the market. This is not only inconsistent with the design principles in clause 3.1.4 of the Rules, but would create a significant administrative burden for AEMO and affected market participants, requiring constant compensation determinations to be undertaken.

If you have any questions, please do not hesitate to contact Franc Cavoli on (03) 9609 8416 or [franc.cavoli@aemo.com.au](mailto:franc.cavoli@aemo.com.au).

Yours sincerely



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