

8 August 2017

John Pierce
Chairman
Australian Energy Market Commission (AEMC)
PO Box A2449
SYDNEY SOUTH NSW 1235

By online submission

Dear Mr Pierce

Managing the rate of change of power system frequency – Draft Determination (ERC0214)

Hydro Tasmania welcomes the opportunity to provide a submission on the AEMC's Managing the Rate of Change of Power System Frequency.

Frequency deviations for contingency events and the rate of change of power system frequency are emerging as important elements due to the high penetration of renewables and asynchronous generation sources. The management of these issues has been particularly relevant in Tasmania. In Tasmania the rate of change of power system frequency has been successfully managed via the use of network constraints. Characteristics of Tasmania's unique system include: Tasmania has disproportionately large credible contingencies relative to the size of the power system; the Basslink interconnector does not transfer the electrical properties of the alternating current system from Victoria; and hydro generators supply relatively limited quantities of fast Frequency Control Ancillary Services (FCAS). Hydro Tasmania has considered the Draft Determination based on experience gained in assisting the local Transmission Network Service Provider (TNSP) in the management of system security and renewable integration in Tasmania.

The Final Report of the AEMC's System Security Market Frameworks Review has proposed several recommendations including measures for immediate action and a further program of work to consider a market framework. Hydro Tasmania is supportive of the AEMC's proposed approach to progress an immediate package to address current concerns while allowing more time to develop a sustainable longer term framework. Hydro Tasmania, however, believes that care needs to be taken to ensure that investments made now do not subsequently lock out future investments that may provide a more cost effective solution for customers. It is important therefore that the AEMC considers this interrelationship as it develops a market framework through the Inertia Ancillary Services rule change while progressing the Managing the Rate of Change of Power System Frequency rule change.

The draft determination places various obligations on the Australian Energy Market Operator (AEMO) and TNSPs. Hydro Tasmania makes the following comments in relation to these obligations:

- AEMO is well placed to determine the required levels of inertia for mainland and Tasmanian regions. Hydro Tasmania believes that it is important to ensure that the methodology for determining the inertia requirement and shortfalls appropriately recognises that the underlying need for inertia in each region should be calculated on a forward looking basis. A

historical assessment of demand and supply may not give an accurate indication of the inertia requirement or shortfalls in each region as historical operation has been based on existing market dynamics and incentives. An obligation for TNSPs to provide inertia would change these dynamics.

- Hydro Tasmania believes that AEMO's calculation methodology to determine inertia should be transparent and provide an opportunity for market participants to be consulted where appropriate.
- Consideration should be given to both the initial rate of change of frequency requirements (occurring in the first 200ms after a contingency event), as well as the subsequent rate of change of frequency, as shown in the AEMC System Security Market Framework review final report Figure 2.4.
- Given the unique nature of the Tasmanian system, Hydro Tasmania suggests that AEMO should accommodate the local TNSP setting requirements for inertia.
- The draft determination proposes to oblige AEMO to determine sub-networks in the NEM that would be required to be able to operate independently as an island. The NEM mainland and Tasmania operate as two separate synchronous systems. Hydro Tasmania therefore suggests that Tasmania should be considered an inertia sub-network, and suggests that for the purposes of inertia management, it is always operating as an island.
- Hydro Tasmania suggest that guidelines will be required to set out how TNSPs would compare or priorities different solutions especially if they provide a different combination of services (i.e. both energy services and network services).
- It is proposed that AEMO would be required to publish the inertia requirement annually in the National Transmission Network Development Plan (NTNDP), and projected inertia shortfalls in the Electricity Statement of Opportunities (ESOO). Given that unexpected changes can happen in the market, there may be value in enabling AEMO to recalculate and adjust the inertia requirement more frequently if required. This would enable the inertia requirement to be aligned with, and be responsive to market changes.

Please contact John Cooper (john.cooper@hydro.com.au or (03) 6230 5313) if you have any questions.

Yours sincerely



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