

22 March 2017

Mr Matt Armitage
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Australian Energy Market Operator Ltd
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By e-mail: planning@aemo.com.au

National Transmission Network Development Plan – Consultation Paper (January 2017)

Dear Mr Armitage

Energy Networks Australia welcomes the opportunity to make a submission to the Australian Energy Market Operator's (AEMO) Consultation Paper – *Material issues and proposed inputs for the 2017 National Transmission Network Development Plan (NTNDP)*, released in January 2017.

Energy Networks Australia is the national industry body representing businesses operating Australia's electricity transmission and distribution and gas distribution networks. Member businesses provide energy to virtually every household and business in Australia.

Energy Networks Australia recognises the importance of the NTNDP in delivering valuable information to a range of stakeholders. We also agree with AEMO that the evolution of the sector is resulting in a new era of transmission planning. This will necessarily require closer interaction between AEMO and the Transmission Network Service Providers to identify National Electricity Market (NEM) priority planning issues, in a timely and efficient manner.

Energy Networks Australia considers that there are a number of ways to enhance planning processes to improve outcomes for both AEMO and transmission businesses. This should enable transmission networks to undertake Regulatory Investment Tests for Transmission (RIT-Ts) to achieve optimal outcomes when assessing planning and interconnector options.

With this in mind, Energy Networks Australia recommends the following additional areas that AEMO may wish to consider for the 2017 NTNDP:

- » **Lead Times for Constraints:** The current lead time for identifying constraints could be improved to deliver a strategic and co-ordinated least cost outcome for customers. For example, South Australia recently experienced a “brown-out” over the summer with limits on the Heywood interconnector being reached and limits in

western Victoria exceeded. Earlier identification and flagging of such emerging reliability constraints would improve outcomes for the market and customers.

- » **Consistency in Forced Outage Recognition:** There is a need for consistent AEMO approaches in managing forced outages whether for generators or network elements. By way of illustration only, a forced outage on a single Heywood circuit is not currently taken into account by AEMO in the NTNDP and can result in a larger loss of supply, than any single generator outage in South Australia.
- » **Technology Impacts:** It will be important to understand how and where different technological developments in connecting resources will impact transmission network planning requirements. Equally, new technology solutions have the potential to alter the service response by TNSPs, in addition to increased scope for non-network solutions.
- » **Anticipating Tipping Points:** New processes should be considered where potential 'shocks' to the system can be identified as early as possible so that there are maximum lead-times to assist AEMO and TNSPs to assess network planning alternatives and to arrive at least-cost options. AEMO and network service providers will require increased analytical capacity to prospectively anticipate emerging issues in system stability and loss of system strength in relevant locations. Other than South Australia, there has been limited detailed power system assessment of the implications of increasing levels of non-synchronous generation on system security. Timely, detailed analysis should be undertaken, in collaboration with jurisdictional planning bodies, to anticipate the implications of increasing levels of forecast variable renewable energy and the loss of synchronous generation.
- » **Increased Range of Scenarios:** Given the wide range of uncertainties, more scenarios may need to be examined, with a process for prioritising scenarios based on which factors are significant. For example, low probability high impact events should be given greater scrutiny. Major market disruptions such as is occurring in the gas markets should also be included. Additional scenario analysis in the NTNDP process would be particularly useful for TNSPs seeking to identify appropriate scenarios when undertaking RIT-Ts.

Energy Networks Australia questions whether sufficient planning, based on a detailed regular assessment of the impact of future synchronous generation closures, is being undertaken by AEMO to ensure that generation supply can meet forecast demand. It will be important to integrate, where possible, assessments of both generation retirements and new generation development so that challenges can be identified and planned for in the NTNDP and in jurisdictional Transmission Annual Planning Reports.

For example, the closure of Victoria's Hazelwood at the end of March 2017 and new generation developments (solar, wind, hydro etc.) will have a major impact on the future of the interconnected NEM transmission network, including for system security, frequency and voltage support, network utilisation, supply demand balance, intermittent generation, etc. Reserve shortfalls are now more likely in the nearer term as recently indicated in AEMO's medium term outlook for the Victorian and South Australian regions.

The COAG Energy Council's proposal of 7 October 2016, [agreed](#), "*AEMO will provide it a 6 monthly update on the implications on security and reliability of current and proposed investment in the national electricity market*". Such a proposal would appear to be a significant opportunity for AEMO to incorporate generation retirements and new generation development into the NTNDP process, in collaboration with relevant network service providers. We support AEMO's endeavours to increase this information and look forward to gaining a better understanding of the approach to be adopted in 2017.

Should you have any additional queries, please feel free to contact Norman Jip, Energy Network Australia's Senior Program Manager - Transmission on (02) 6272 1521 or njip@energynetworks.com.au.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'John Bradley', is positioned above the printed name and title.

John Bradley
Chief Executive Officer