

17 June 2021

Ms Anna Collyer  
Chair  
Australian Energy Market Commission  
GPO Box 2603  
Sydney NSW 2000

Via online submission

Dear Ms Collyer

**RE Draft Rule Determination: Efficient Management of System Strength on the Power System**

TasNetworks welcomes the opportunity to respond to the Australian Energy Market Commission's (**AEMC**) Draft Determination "Efficient Management of System Strength on the Power System".

TasNetworks is the Transmission Network Service Provider (**TNSP**), Distribution Network Service Provider and Jurisdictional Planner in Tasmania. TasNetworks is also the proponent for Marinus Link, a new interconnector between Tasmania and Victoria. The focus in all of these roles is to deliver safe, secure and reliable electricity network services to Tasmanian and National Electricity Market (**NEM**) customers at the lowest sustainable prices. As such, TasNetworks is supportive of the proposed reforms, especially where they strengthen customer outcomes in the areas of reliability and cost.

TasNetworks' supports Energy Networks Australia's (**ENA**) submission and would like to make further comments from a Tasmanian perspective.

Tasmania, as a 'synchronous-island' region, faces unique system strength issues. The State's inherent system strength vulnerability is further exacerbated as a greater proportion of Tasmanian load is supplied from Victoria via Basslink during the middle part of the day, displacing local synchronous sources of generation which would otherwise provide system strength and inertia. The Australian Energy Market Operator (**AEMO**) first declared a Notice

of Inertia and Fault Level Shortfall in Tasmania<sup>1</sup> in November 2019. In May 2021, AEMO issued a second Notice of Tasmania System Strength and Inertia Shortfall<sup>2</sup> for larger magnitude and longer duration shortfalls than those declared in 2019.

TasNetworks recognises that this Rule Change, for the structured procurement of system strength in the investment timeframe, is needed and will provide greater certainty that efficient levels of system strength will be available, when and where it is needed. Customers will benefit from the more efficient connection of new generation and a more secure energy system.

The AEMC Investigation into System Strength Frameworks in the NEM<sup>3</sup> has explored the issues associated with system strength in a holistic manner. The integration of this Rule Change with upcoming rule changes focused on operational timeframes, including a synchronous services market and unit commitment for security mechanisms, should be fully explored, understood and carefully considered. In shorter timeframes, there is a balance to be struck between AEMO constraining off (or down) plant which is reliant on a particular level of system strength, and the need for the System Strength Service Provider (**SSSP**) to provide sufficient services to manage network operating condition. There is a potential risk of over investment if this balance is not adequately addressed. This is particularly relevant for the management of routine outages to complete maintenance work, as well as following contingency events (or contingency reclassifications) which may require that specific network switching configurations be invoked for short periods of time. The setting of a system strength standard should focus on and be consistent with the National Electricity Objective promoting efficient investment in electricity services for the long term interest of consumers.

TasNetworks has demonstrated that system strength can be provided at the lowest cost to customers by using the expertise of a TNSP to source a suite of flexible and innovative solutions, without capital bias. To secure minimum levels of system strength in Tasmania, the following arrangements are currently relied on:

- Following receipt of the first shortfall notice from AEMO, TasNetworks established a contract for the provision of network services (both inertia and system strength) from synchronous generators having suitable technical characteristics (including capability to operate as synchronous condensers when not generating).
- We have continued with the parallel use of market constraints which limit inverter based resources (**IBR**) when rate of change of frequency (**ROCOF**) and system strength conditions exceed the defined technical envelope for the Tasmanian power system. Constraints act as a 'backstop' for contracted services and ensure particularly onerous operating conditions can be managed in real time without risk to power system security.

These arrangements have been successful and show the benefit of flexibility and local knowledge, particularly to source non-network solutions, in the management of system security.

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<sup>1</sup> [notice-of-inertia-fault-level-shortfalls-tasmania-nov-2019.pdf \(aemo.com.au\)](#)

<sup>2</sup> [2021 Notice of Tasmania system strength and inertia shortfalls.docx \(aemo.com.au\)](#)

<sup>3</sup> [Investigation into system strength frameworks in the NEM | AEMC](#)

In enacting this Rule Change, the AEMC is making a decision to fully unbundle system strength from the energy market. The AEMC state that the SSSP cannot rely on system strength services which are coincidentally provided by synchronous generators as a result of generators being dispatched in the energy market<sup>4</sup>. Therefore, system strength services that have not previously been valued will now need to be valued and assessed against the cost of other options. As Tasmania cannot access system strength (or inertia) from neighbouring regions and has access to only one large portfolio of synchronous machines with a single owner, the cost implications for customers should be closely examined. For example, the charging structure to secure system strength from synchronous machines, while it will vary on a case by case basis, is likely to include some energy market price volatility. The pricing for system strength services for new IBR connections should therefore be based on the 'long run cost' of providing services at the relevant location. This does mean that the main impact of any volatility in these contracted payments is likely to be on transmission use of system charges, which is not a desirable outcome as these charges are ultimately paid by customers.

TasNetworks is particularly supportive of the inclusion of the 'inverter based load' and 'inverter based resource' definitions in the National Electricity Rules (**NER**). It is appropriate that the new charging mechanism for use of system strength, the system strength mitigation requirement (**SSMR**), applies to all parties connecting under Chapter 5 of the NER, including inverter based loads that create a demand for system strength services. We consider the new definitions an important step towards appropriately planning for the reliability of a network supplying new load types, particularly large electrolytic hydrogen production facilities. Moving forward, TasNetworks would encourage regulatory policy to be developed consistently for inverter based load and generation, noting that certain technical issues are common and equally important for managing power system security. An example of this is the need for acceptable fault ride through performance.

One aspect that could be more fully considered by the AEMC is the impact that a sudden reduction in existing industrial load would have on the model for procurement of system strength services. This is particularly relevant for Tasmania given the level of the industrial load demand compared to the overall system size. Lower demand from base load users could see significant synchronous generation displaced from the market more of the time, resulting in a loss of the associated system strength and inertia services that are inherently provided. Consequently, significant changes to the customer mix in Tasmania will impact network planning requirements to meet the system strength standards. We would encourage the system strength impact assessment guidelines to provide direction on how this particular issue should be managed.

The Rule Change could more fully address the future contribution to NEM-wide system security from the interconnector projects identified in the Integrated System Plan (**ISP**). The 2020 ISP recognises that major transmission interconnector projects (actionable and actionable with decision rules) are critical to address cost, security and reliability issues. In the case of Marinus Link, the additional interconnection capacity will contribute to increased reliability of supply and power system security in mainland NEM regions, and provide resilience benefits to both mainland NEM regions and Tasmania in the event of an extended outage of Basslink<sup>5</sup>. The ability of Marinus Link to contribute to system strength is also being

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<sup>4</sup> AEMC Draft determination, Efficient management of system strength, 29 April 2021, p75

<sup>5</sup> Project Marinus Initial Feasibility Report, February 2019, p15

explored. It could be assumed that the actionable ISP projects will by default be included in planning for system strength at AEMO declared system strength nodes. However, greater clarity that this is the case would improve the application of the Rule into the future. The draft determination provides clarity as to how future generation connections will be projected to plan for system strength and we suggest similar clarity be included for interconnectors.

TasNetworks supports the use of existing cost recovery mechanisms, including the Regulatory Investment Test for Transmission (**RIT-T**) process to determine the net-beneficial option to meet the system strength standard set by AEMO in its system strength report. Network solutions can be cost recovered through a revenue determination or through a Contingent Project Application (**CPA**). Cost recovery in a situation where the RIT-T is not complete and the network solution is below the CPA threshold<sup>6</sup> should be assured, and further guidance in such an instance may be required from the Australian Energy Regulator (**AER**). If the net-beneficial option is a non-network solution, the cost recovery mechanism is the network support arrangement. One reservation is that the network support pass through provisions of the NER have not yet been widely used. As there is minimal precedent, further guidance from the AER would be valuable. To the extent that a new interconnector will provide network support requirements at an AEMO declared system strength node, TasNetworks' view is that this option should be considered along with all others as that TNSP undertakes the RIT-T to establish the net beneficial option.

TasNetworks does need to highlight specific time pressures with respect to our Revenue Proposal timeline. TasNetworks will be the first TNSP to have the potential to include the AEMO's inaugural system strength report using the revised system strength requirement methodology in a Revenue Proposal. We expect to have worked closely with AEMO in the development of these documents and to have the capacity to use draft information in parallel for the development of our Revenue Proposal. However, when the final standards are published in September 2022, TasNetworks' Revenue Proposal will be late in its development for submission by January 2023. TasNetworks will seek to engage with the AER to manage this timing issue. Our expectation is that:

- network support arrangements would be used to recover the costs of any existing and future AEMO declared inertia and system strength shortfalls for the remainder of the regulatory period ending June 2024; and
- TasNetworks would make best endeavours to include a preliminary estimate of any net beneficial options to meet any obligations for meeting the system strength standards in the initial Regulatory Proposal (January 2023), with refinement required for a firm forecast in the Revised Revenue Proposal (November 2023).

TasNetworks looks forward to continuing to collaborate with market bodies, particularly AEMO, to proactively plan for Tasmania's unique system strength needs and understand the impact on customers.

For more information or to discuss this submission, please contact TasNetworks' Regulation Leader, Chantal Hopwood, at [Chantal.Hopwood@tasnetworks.com.au](mailto:Chantal.Hopwood@tasnetworks.com.au).

Yours sincerely

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<sup>6</sup> Clause 6A.8.1(b)(2)(iii) of the NER

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