

1 February 2021

Mr Nino Ficca
Interim Chief Executive Officer
Australian Energy Market Operator
Via email: forecasting.planning@aemo.com.au

Dear Mr Ficca

RE Draft 2021 Input, Assumptions and Scenarios Report

TasNetworks welcomes the opportunity to respond to the Australian Energy Market Operator's (AEMO) Draft 2021 Input, Assumptions and Scenarios Report (**Draft 2021 IASR**).

TasNetworks is the Transmission Network Service Provider (**TNSP**), Distribution Network Service Provider (**DNSP**) 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. TasNetworks therefore supports AEMO's forecasting and planning activities in the development of the 2022 Integrated System Plan (**ISP**).

TasNetworks commends the collaborative approach adopted by AEMO in the development of Draft 2021 IASR. In particular, making available recordings of each of the virtual forums has assisted in TasNetworks' understanding of the diversity of opinion from various industry stakeholders.

Proposed scenarios

The Draft 2021 IASR proposes to add to AEMO's risk scenario collection a case where Marinus Link funding arrangements are not resolved and the project does not proceed. Since the Draft 2021 IASR was published, the Commonwealth-Tasmania Bilateral Energy and Emissions Reduction Agreement Memorandum of Understanding has been signed, assuring funding of Marinus Link through design and approval to a final investment decision. TasNetworks

considers the proposed scenario on Marinus Link¹ should now be excluded given the increase in funding certainty and the associated decrease in risk. The scenario may be more appropriately considered in the lead up to the 2024 ISP, depending on the status of the project at the time.

TasNetworks would also highlight that the lack of any grid connected hydrogen load in the Sustainable Growth scenario seems inconsistent with the high global and domestic decarbonisation ambitions outlined in this scenario, these being consistent with rapid progress in deployment of low-carbon fuels and energy technologies, including hydrogen, carbon capture utilisation and storage. In particular, the 2020 World Energy Outlook's Sustainable Development Scenario, the scenario that most closely reflects the scenario settings of the Sustainable Growth scenario in the Draft 2021 IASR, outlines expectations that includes 50 and 470 Mtoe of global hydrogen production by 2030 and 2050 respectively. TasNetworks encourages AEMO to consider including a level of grid connected hydrogen load to improve the veracity the Sustainable Growth scenario.

Assessment of transmission and generation options on an equitable basis

The ISP modelling undertakes technology agnostic system studies to determine the least-cost and least-regret transition of the NEM that ensures that the power system can reliably meet demand.

The Actionable ISP Rules framework and the Australian Energy Regulator's (AER) recent Draft Guidance Notes on the Regulation of Actionable ISP Projects are outlining how actionable transmission project's stakeholder engagement, risk management practices, governance arrangements and procurement processes support only efficient and prudent costs being passed through to electricity customers. The cost estimate is further refined as the actionable project is progressed before applying for AEMO's feedback loop and AER's Contingent Project Application process.

In comparison, in the Draft 2021 IASR generation and storage solutions are only a 'modelled' cost estimates, without accounting for any contingency or accuracy allowance. This disconnect means the highly probable cost of a transmission project and a modelled cost of generation and storage solution are not comparable.

TasNetworks acknowledges the need for regulatory protections and rigorous cost control given the regulated rate of return for transmission assets, whereas generation and storage solutions, as a private investments, receive different treatment and may earn much higher or lower returns. Despite this, and noting that the ISP modelling objective is to achieve a least-

¹ AEMO, [Draft 2021 Inputs](#), Assumptions and Scenarios Report, December 2020, "Marinus Link funding arrangements not resolved, under conditions aligned with the Central scenario (which could lead to under-investment or overdue investment in alternatives).", page 5.

cost outcome for customers, methods need be found to make the economic analysis of solutions offered by different technologies more comparable.

Treatment of generation retirement based on economics

TasNetworks welcomes AEMO's modelling commitment that allows earlier than expected generation retirements if plant becomes uneconomic to operate before the end of a generator's technical life. TasNetworks would encourage AEMO to ensure modelling reflects the outcomes of various state-based renewable energy policies, in particular the associated increase in renewable energy these legislated policies will support and how these incentives may accelerate the early retirement of the coal-fired generation. The generation outlook workbooks² released with the Final 2020 ISP indicate that for NSW black coal generation the projected capacity factor for the 2020's is 50% to 60%, but as the penetration of renewable energy accelerates, this capacity factor is likely to reduce further. This suggests that the assumptions for the retirement of coal in all scenarios, and particularly the Central scenario, should be carefully considered.

Climate change and carbon budget

The Draft 2021 IASR documents acknowledge climate change factors and their likely impact on various aspects of the power system, including consumer demand response, generation and network availability impacts. TasNetworks encourages AEMO to consider developing synthetic weather traces, while maintaining the consistency between various weather and demand factors, that better reflect the increased frequency of recent trends like bushfires, heavy rainfall events and tropical storms due to warmer ocean water temperatures. These events can have a considerable impact on all generation technologies, and future power system studies should build sufficient redundancies to navigate such challenging periods.

TasNetworks seeks further clarification regarding the computation of carbon budget. The Step Change scenario for the 2020 ISP had a cumulative carbon budget of 1,465 Mt CO₂-e, applicable for the financial period ending 2020 to 2050. Based on published figures, the NEM emissions for the financial year of 2019-20 and 2020-21 are expected to be approximately 291 Mt CO₂-e.³ This means that 1,174 Mt CO₂-e remains in the budget for the financial year ending 2022 to 2050. The Draft 2021 IASR outlines a cumulative carbon budget for Sustainable Growth scenario at 1,510 Mt CO₂-e for the financial period ending 2022 to 2050. If it is the case that the Sustainable Growth scenario is meant to closely represent the Step Change scenario from the 2020 ISP, the carbon budget should be adjusted downwards by approximately 300 Mt CO₂-e to remove the discrepancy. This correction would then need to carry across to other scenarios, in particular adjusting down the base carbon budget for the Export Superpower scenario.

² AEMO, [ISP Generation Outlook Workbooks](#)

³ NEM electricity emissions, Australia's emissions projections 2020, Australian Government

Diversity in costs projections

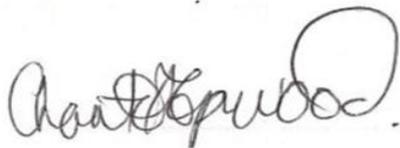
As noted in the Marinus Link Supplementary Analysis Report⁴, projections by some of the other research organisations in the world consider greater diversity in costs for storage technologies. While the cost for storage technologies is expected to continually reduce, the magnitude of decrease will vary depending upon various factors including sourcing of raw materials, environmental impacts and overall lifecycle costs. TasNetworks encourages CSIRO and AEMO to leverage insights gathered from other analysis and seek to develop a broader range of possible cost projections between scenarios.

Aurecon Review

TasNetworks welcomes the adoption of heat rate curves to calculate complex heat rates based on the Aurecon 2020 Cost and Technical Parameter Review. TasNetworks would also encourage minimum stable load assumption for coal fired generators from the Aurecon Review to be included in the Draft 2021 IASR, specifically 60% and 42% for brown and black coal units respectively.⁵

Should you have any questions, please contact Jenny Cosgrove, Policy and Regulation Specialist via email on jenny.cosgrove@tasnetworks.com.au.

Yours sincerely



Chantal Hopwood
Leader Regulation

⁴ Project Marinus, [Regulatory Test for Transmission Supplementary Analysis Report](#)

⁵ Section 4.5.1 of Generator Technical and Cost Parameters, Aurecon, July 2020