

11 February 2022

Daniel Westerman
Chief Executive Officer
Australian Energy Market Operator
Via email: ISP@aemo.com.au

Dear Mr Westerman

RE 2022 Draft ISP Consultation

TasNetworks welcomes the opportunity to respond to the Australian Energy Market Operator's (**AEMO**) Draft 2022 Integrated System Plan (**Draft ISP**).

TasNetworks is the Transmission Network Service Provider (**TNSP**), Distribution Network Service Provider (**DNSP**) and Jurisdictional Planner in Tasmania. 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 also concluded the Regulatory Investment Test for Transmission (**RIT-T**) for Project Marinus in June 2021, and will be responsible for the North West Transmission Development, while Marinus Link Pty Ltd (**MLPL**), a prospective TNSP, will be responsible for the high voltage direct current (**HVDC**) interconnector and converter stations. These two investments constitute Project Marinus and collectively contribute the highest net benefits (\$4.6 billion) to the Draft Optimal Development Path (**ODP**) (\$26 billion). TasNetworks notes the identification of Project Marinus as a single actionable ISP project without decision rules provides greater investment certainty supporting timely project progression.

TasNetworks supports AEMO's forecasting and planning activities in the development of the Draft ISP and commends the collaborative approach, underpinned by AEMO's extensive stakeholder engagement. The extensive analysis undertaken provides a robust view on the NEM and its future needs. The detailed analysis provides confidence that the projects identified in the Draft ISP are those optimally suited to manage the energy transformation in the best interests of all customers.

TasNetworks has contributed to the development of the Energy Networks Australia (**ENA**) submission and supports the points made therein. In addition, TasNetworks would like to emphasise the following issues as of particular interest to Tasmania, with more details provided in the attachment to this submission.

Our submission includes comment on the following:

- Support for the selection of the Step Change Scenario as the most likely scenario for Australia's power system transformation.
- The criticality of strategic projects, like interconnectors, being constructed to mitigate risks from either early closure of thermal plant or risks of other projects not being delivered as presently forecast.
- Recognition that any change in the classification of Project Marinus as a single actionable project without decision rules could have a material impact on the project commissioning timeline and benefits to the NEM.
- Confirmation of the current timeline for Project Marinus as detailed in the attachment.
- Support for AEMO to consider publication of the distributional effects for each of the actionable ISP interconnector projects.
- The potential for more wind generation in both in the North West Tasmania Renewable Energy Zone (**REZ**) and the proposed offshore wind zone off the north coast of Tasmania.

In conclusion, to replace by 2050 a significant proportion of the thermal generation fleet, along with the gas and petroleum products currently consumed in transport, industry and domestic use will require a near doubling of the amount of electricity that the NEM delivers. To achieve this, the NEM needs to be supported by more than the current transmission infrastructure. This transformation will require investment in strategic transmission infrastructure; supported by a combination of long duration energy storage and battery storage technology, identified in the ODP of the Draft ISP.

Should you have any questions, please contact Chantal Hopwood, Leader Regulation via email on Chantal.hopwood@tasnetworks.com.au.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'W. Tucker', with a stylized flourish at the end.

Wayne Tucker

General Manager Regulatory, Policy and Strategic Asset Management

Attachment

TasNetworks supports AEMO's forecasting and planning activities in the development of the Draft ISP. Considerable work has gone into the development of the models and analysis used to determine the optimal development path (**ODP**) for the NEM. We commend AEMO's collaborative approach and extensive stakeholder engagement which has underpinned this work. This is exemplified by the transparent approach adopted throughout the development of the Draft ISP, with the publication of seven appendices and over 15 results workbooks. The end result, in TasNetworks' opinion, is a robust view of the NEM and its future needs. The extensive work in developing and testing the inputs and assumptions, clarifying information and confirming outputs provides confidence that the projects identified in the Draft ISP are those optimally suited to manage the energy transformation in the best interests of all customers.

The process used to determine the most likely scenario is critical in ensuring the Final ISP can be regarded with confidence. The Delphi process provides a robust and unequivocal way to select the most likely scenario, that being the Step Change scenario. TasNetworks supports the selection of the Step Change scenario as the most likely scenario as it meets the renewable energy targets developed by the various states, Australia's long-term emissions reduction plan and the application of economy-wide carbon budgets to limit global temperature rise to well below 2°C (Paris Agreement target), while also achieving the aim to have economy-wide net zero emissions by 2050.

In addition, as highlighted in the Supplementary Analysis¹ and the Project Marinus RIT-T conclusions report², TasNetworks agrees with AEMO's forecast outcomes that thermal generators are likely to retire earlier than their currently announced retirement dates. TasNetworks has also reached this conclusion from our market modelling. This insight is based on the increased generation from variable renewables that exerts significant commercial pressure on the coal fired generation fleet and gives rise to operational inefficiencies as thermal output is continually varied to accommodate lower cost renewable generation in the supply stack.

AEMO notes in the Draft ISP the various risks to some projects that could arise from issues like supply chain uncertainties. Given the impacts from the pandemic are likely to be felt for years to come, potential issues, like the supply of concrete, steel and key staff, together with potential issues finalising route approvals, are likely to lead to increased costs and delays in many projects. These supply chain issues could also lead to the accelerated closure of coal plants.

Therefore it would be optimistic to consider that all projects will be delivered as planned in the current environment. Rather than potential delays and cost increases being a rationale for delaying some forecast projects, these risks rather indicate the need to ensure continued progress of a suite of strategic projects, such as Project Marinus. This would ensure the capability to meet customer requirements following any change in circumstances arising from the rapidly-transforming NEM. As the net market benefit multiple of almost 2.5 times the cost of the ODP indicates, there is significant market value to be realised from the implementation of these large transmission projects that far outweighs the risk of cost increases or delays.

¹ [Project Marinus Supplementary Analysis Report, December 2020](#)

² [Project Marinus - Project Assessment Conclusions Report \(PACR\), July 2018 – June 2021](#)

Projects that can ‘fill the gaps’ should other projects be delayed, are more important than ever in these circumstances. Project Marinus is just such a project. As the draft ISP identifies, Marinus Link improves system reliability through enhanced geographic diversity between Tasmania and mainland Australia, and access to some of the NEM’s most cost effective wind generation and deep storage resources. The entire 1,500 MW interconnector is needed in all the scenarios identified. The Draft ISP highlights the value proposition of Project Marinus through its classification as a single actionable project without any decision rules. This status, should it be maintained in the Final ISP, enables investment certainty and allows the project to commence both the critical major equipment tendering and regulated revenue setting processes. Furthermore, TasNetworks is competing on a global stage for manufacturing, construction and commissioning of converter stations and cables. Therefore, any change in the status of Project Marinus in the Final ISP is likely to have a material impact on project cost, reaching Financial Investment Decision (**FID**) and in-service dates, putting the NEM at further risk from deviating from its least-cost pathway.

TasNetworks confirms the details provided in footnote 5 on page 13 of the Draft ISP which indicates that the current timeline for Project Marinus is for the first 750 MW stage to be fully available by July 2029 (with 200 MW available from December 2028). The second stage could be available from July 2030 onwards. As indicated in the Draft ISP, TasNetworks does not anticipate that this revision to the commissioning timeline will have an impact on the net market benefits or actionable status of the project.

Feedback on Project costs, risks and beneficiaries

While the Design and Approval phase of Project Marinus is funded, the cost recovery of the project remains a key project risk. It is critical to resolve the ‘who pays’ question soon, since the net market benefits of the project will only further improve as the associated risks with the retirement of the remaining brown coal generators in Victoria eventuate. These closures could occur earlier if there was a major equipment failure or it was uneconomic to continue operations. The last brown coal generator is currently expected to retire in 2031/32, so it is critical to ensure that well before that date Victoria, and the rest of mainland Australia, have access to firm dispatchable energy provided by deep storage and strategic interconnection. Project Marinus can meet this need if there are no further delays to the project which would occur without resolution of the ‘who pays’ question.

The current cost estimate of the project remains unchanged from the Project Marinus Project Assessment Conclusions Report (**PACR**) estimate of \$3,480 million (in June 2020 dollars). Project Marinus is currently engaging with critical suppliers on updated cost inputs, and will engage with AEMO if there is any material change to the cost estimate ahead of the Final 2022 ISP.

TasNetworks welcomes the undertaking to publish the distributional effects of the ODP in the Final ISP. TasNetworks has received extensive feedback from customers through our Regulatory Investment Test for Transmission (**RIT-T**) process regarding the transmission network pricing impact of Project Marinus, particularly in Tasmania. In principle, the most equitable and efficient pricing arrangement would allocate the costs of Project Marinus in a manner that reflects its beneficiaries. TasNetworks considers publication of the distributional effects for each Actionable ISP interconnector project would assist in resolving the issue of fair cost allocation of interconnectors which is critical for ensuring the project remains on track.

As noted in the Draft ISP, a risk to the timely implementation of the ODP is securing social licence for renewable generation, storage and transmission. It is critical that sufficient time be allowed in the ISP for TNSPs to engage with local communities and other stakeholders to ensure social licence for the development is maintained. TNSPs are best placed to identify stakeholders and to work with them to ensure an outcome that benefits all sectors of the community.

Feedback on Inputs, Assumptions and Scenarios Report

TasNetworks has some observations on the Inputs, Assumptions and Scenarios Report (**IASR**). The North West Tasmania offshore wind zone identified in the IASR is supported by the recent announcements from the Tasmanian Government. This addition is further supported by active investor interest as exemplified by the Bass Offshore Wind Energy project (**BOWE**) indicating the zone could be extended to cover the entire north coast of Tasmania.

There is inconsistency in the Inputs and Assumptions workbook (part of the IASR) in terms of the available transmission capacity. The additional network capacity presented in “Renewable Energy Zone (**REZ**) Augmentation Options” tab presents different values to those in “Augmentation Options”. Those in the “REZ Augmentation Options tab” are consistent with the 2021 Transmission Cost Report and what TasNetworks believes is available, with the associated augmentations identified, however the Draft ISP appears to use the values from “Augmentation Options”. This led the Draft ISP to understate the augmentation requirements to support the Central Highlands REZ in Tasmania. The Draft ISP forecast 1,500 MW of potential wind development in the Central Highlands REZ which could be supported solely through Project Marinus. The North West Tasmania Transmission Developments as part of Project Marinus will support flows from this zone, however the Waddamana to Palmerston corridor will also require augmentation to allow unconstrained dispatch of that level of generation over and above existing hosting capacity limits.

TasNetworks is generally supportive of AEMO’s projections for wind resource in the North West Tasmanian REZ, especially the increase from the previous ISP. This can be confirmed by the high volume of connection enquiries in the North West Tasmanian REZ.

Feedback on AER’s Transparency Review of the Draft ISP

TasNetworks notes that the Australian Energy Regulator (**AER**), in its Transparency Review of the Draft ISP, questions the increase in additional project costs of \$600 million if the second link is commissioned more than three years after the first link. The estimated cost of \$600 million was quoted in the Project Marinus RIT-T and supplied to AEMO as part of the Transmission Cost Review. As outlined in the Project Marinus PACR, the saving of \$600 million is primarily attributable to the synergies of planning, constructing and delivering the entire 1,500 MW project as one standalone project, as compared to two standalone 750 MW projects. The cost savings are attributable to:

- **Synergies in progressing design, approvals and community engagement** – Project Marinus needs to seek at least 15 major environmental approvals from three different jurisdictions (i.e. Victoria, Tasmania and Commonwealth). Each approval typically requires commencement of construction within two to three years of the permit being granted. This work involves community engagement, land-use planning, detailed technical system studies, economic analysis, project management (legal, tendering, safety) and financial activities (project financing, debt and equity raising). Undertaking these approvals once rather than twice presents a significant cost saving.
- **Economies of scale discount when negotiating with suppliers** – Major suppliers (converter station and cable) have indicated that HVDC interconnector may be eligible for volume discounts if orders are placed for components as one standalone project with the two stages being delivered within two to three years of each other.
- **Construction efficiencies** – A range of cost savings occur when construction activities of both stages can be coordinated as one project. This is particularly relevant where specialised equipment and crew needs to be mobilised. This includes:

- undertaking horizontal directional drilling (**HDD**) for shore crossings at the Tasmanian and Victorian coasts;
- common civil works activities such as access tracks, fencing and land remediation;
- project management and supervision;
- trenching activities for the entire 90 km of the underground Victorian corridor;
- the impacts and timeline of land remediation after construction activities are completed; and
- mobilisation of the construction workforce (specialised cable-laying and converter station crew).

In addition to enabling cost-efficient installation to occur, Project Marinus proposes to undertake the trenching and civil activity for the entire 90 km of the underground Victorian corridor for both links concurrently³. This approach is considered most prudent to minimise the land use and environmental impacts and allow the community and landholders to recommence farming and other activities following the completion of the construction activity.

Feedback on Draft Gencost 2021-22

The Levelised Cost of Energy (**LCOE**) analysis continues to provide good insight into the cost associated with various technology types to meet the future energy needs of the system. TasNetworks welcomes CSIRO’s decision to factor in the current supply chain pressures felt worldwide. TasNetworks suggests that CSIRO should consider undertaking sensitivity analysis wherein these inflationary pressures are sustained well beyond the 2022-23 financial year. As the CSIRO modelling is already indicating, TasNetworks anticipates that this sensitivity will further highlight the trend of coupling wind generation and transmission expenditure. This is a critical trend to monitor in the short to medium term, since it further highlights the need to diversify the power system through a combination of solar PV, wind power, shallow and deep storage and transmission investment.

TasNetworks also notes the Gencost report highlights that the dispatchable capacity needs of Victoria are met by NSW and Tasmania, as both states have hydro and pumped hydro capacity. This implicitly assumes that additional interconnection between Tasmania and Victoria is commissioned. TasNetworks would appreciate if CSIRO could state in the final Gencost report, the transmission augmentation assumed between Tasmania and mainland Australia.

³ The trenching activity involves digging two parallel trenches, laying ducts and constructing bays, where required. The trenches are backfilled and the land remediated after the ducts are installed, except around the joint bays.