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Energy Policy WA (EPWA)
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To whom it may concern

Consultation – Submissions for the Pilbara ISOC Co Subchapter 10.1 Functions Rule Change Proposal

1 Executive summary

Woodside appreciates the opportunity to provide feedback on Pilbara ISOC Co Limited's (**ISO**) proposed rule change in relation to its long-term coordination and planning functions under subchapter 10.1 of the Pilbara Network Rules (**the PNR**) (**the Rule Change**).

Woodside has reviewed the proposed amendments to Subchapter 10.1 against the specific requirements of Rule 281 (Transmission Development Plan – NWIS) and Rule 282 (Pilbara GenSOO) of the PNR. Woodside considers that the underlying purpose and outcomes of ISO's long-term coordination and planning reporting functions and EPWA's techno-economic modelling are fundamentally different, such that ISO and EPWA undertaking these workstreams simultaneously would not be duplicative.

Woodside submits that publishing ISO's reports by 1 July 2025 will support the State Electricity Objective; ensure timely decision-making and promote efficiency in the North West Interconnected System (NWIS). Woodside emphasizes that the information to be published by ISO is critical for rule participants to make investment decisions, including information regarding credible scenarios for supply/demand in various locations, current and forecast network constraints, and proposed augmentations to the covered networks. Putting aside the fundamental differences between ISO and EPWA's work, it should also be acknowledged that there is no fixed timeframe for publishing the results of EPWA's techno-economic modelling and Rules review, and that this work could be subject to delays.

Woodside's submission, should be taken into account in light of the 2030 target under the Australian Government's Safeguard Mechanism (SGM), which will require investment decisions to be made by impacted industry proponents by 2025-2027 at the latest.

In the absence of the critical planning information to be provided in ISO's reports, proponents may incur additional costs associated with project delays and/or need to undertake their own system studies in order to make investment decisions to meet regulatory timeframes for emissions reduction.

Our considered views on the importance of these publications, are outlined in this submission.

2 Background to the Rule Change

The Rule Change proposes to defer the following long-term coordination and planning obligations of the ISO, currently deliverable on 1 July 2025, by up to two years:

- The obligation under Rule 279 of the PNR for ISO to prepare and publish:
 - a Transmission Development Plan (**TDP**) under Rule 281; and
 - a generation statement of opportunity for the Pilbara (**Pilbara GenSOO**) under Rule 282.

Together, the **NCP Reports** are proposed to be deferred to 1 July 2027.

- The obligation under Rule 286 of the PNR to conduct a review of the Subchapter 10.1 processes and reports against the objective in Rule 276 and the Pilbara Electricity Objective and publish a report (**Subchapter 10.1 Review Report**) within two years after the PNR commencement date would be removed, with requirement that the Subchapter 10.1 Review Report be published at least once every five years retained (meaning the ISO would have discretion to publish the first report by, latest, 1 July 2028).

ISO's rationale for this Rule Change is to avoid it completing what it considers to be duplicative work that is currently being undertaken by EPWA and involves:

- undertaking techno-economic modelling to develop and publish a Pilbara Energy Transition Plan; and
- a review of the Rules to ensure they are fit for purpose for a low carbon future.

EPWA is targeting publication of its work by July 2025.

ISO further proposes that undertaking such work required by the above long-term coordination and planning obligations simultaneously has the potential to create inconsistent outcomes, which would not be in the interest of the Pilbara electricity objective and would be contrary to the network coordination and planning objectives in Rule 277 (particularly Rule 277(2)(a) which provides that, as a secondary objective, the primary objective must be pursued in a manner which, so far as reasonably practicable, minimises cost and disruption to rule participants).

3 Purpose of the NCP Reports and Rule 286 Report

Woodside submits that the underlying purpose and outcomes of the following are fundamentally different:

- the work required to be undertaken by ISO to publish the NCP Reports and Subchapter 10.1 Review Report; and
- EPWA's techno-economic modelling.

Rule 277 makes it clear that the primary objective of subchapter 10.1 of the PNR is to produce reports which provide credible, independent information for the potential developers of networks, generation and loads in the Pilbara, with the aim of promoting efficient use and investment, and the coordinated development, of existing, new and augmented Pilbara networks. This objective should be read alongside the Pilbara electricity objective, which is to:

*“...to promote efficient investment in, and efficient operation and use of, electricity services for the long-term interests of consumers of electricity in relation to —
 (a) the quality, safety, security and reliability of supply of electricity; and
 (b) the price of electricity; and
 (c) the environment, including reducing greenhouse gas emissions.”*

Like power systems worldwide, the Pilbara NWIS is expected to undergo major change over the next ten years. The system will move from being dominated by large thermal power stations, to a system where there will be a multitude of power generation sources and technologies of various types and sizes. This shift includes a move from firm to variable energy sources and synchronous to inverter-based generation, potentially distributed widely geographically. This has significant implications for the electricity system in ensuring the continuous matching of supply with demand and continuous provision of essential voltage and frequency management services, ensuring sufficient reserves and capacity so the total power system (transmission and generation) is robust enough to cope with both the expected and unexpected events and stay within the power system operational design limits.

To meet the above objective and produce the TDP and Pilbara GenSOO in the context of the changing environment, ISO would be required to undertake electrical power system simulation which involves power system modelling and network simulation in order to analyse electrical power systems using design/offline or real-time data. Many elements of the power system could be modelled as part of this work, including the following:

- Power-flow studies, which calculate the loading on transmission lines and the power necessary to be generated at generating stations, given the required loads to be served.

- Short circuit study or fault analysis which calculates the flow at various points of interest in the system under study, for short-circuits between phases or from energized wires to ground.
- Transient or dynamic stability studies which show the effect of events such as sudden load changes, short-circuits, or accidental disconnection of load on the synchronization of the generators in the system.
- Harmonic or power quality studies which show the effect of non-linear loads such as lighting on the waveform of the power system and allow recommendations to be made to mitigate severe distortion. An optimal power-flow study establishes the best combination of generating plant output to meet a given load requirement, so as to minimize production cost while maintaining desired stability and reliability.

Woodside understands that this type of modelling and simulation will not form part of EPWA's techno-economic modelling. Based on the terms of reference for EPWA NWIS modelling published by the Department of Mines, Industry Regulation and Safety (**DEMIRS**), techno-economic modelling takes electricity demand inputs obtained from a wide range of public, government and internal modelling sources, and tests these inputs against various scenario decarbonisation narratives to understand future Pilbara electricity system arrangements. The model developed is able to analyse a selected number of alternative scenarios to establish a trajectory or trajectories that meet the Pilbara decarbonisation goals. This would provide typical techno-economic intermittent generation and storage development scenarios (e.g. no integration vs partial integration vs full integration). The modelling activity also provides information to allow a 'stress test' of the existing PNR at varying levels of renewable energy and storage under these scenarios at relevant points of time (i.e. 2030, 2024 and 2050). The key requirement of the EPWA modelling work is to provide a basis to assess and evaluate the required evolution of the PNR.

The results of this work provides forecast information that affirms EPWA's proposed reforms to decarbonise the Pilbara. This is worthwhile modelling for the ultimate end state for transmission in the NWIS. While there may be elements in common as between ISO's modelling and EPWA's modelling, the results of EPWA's modelling will not provide the following critical information for rule participants and, in particular, new entrants considering making an investment decision in the NWIS:

- As per Rule 281, the following elements of the TDP:
 - a range of Credible scenarios for the locations and quantities of electricity supply and demand in NWIS covered networks (including locations which the NWIS is reasonably capable of servicing if it is suitably augmented) (Rule 281(b));
 - a consolidated summary of Horizon Power and APA's most-recently-published proposed and contemplated augmentations to the NWIS covered networks (Rule 281(c)); and
 - current and projected areas of network constraints in the covered networks, possible efficient development strategies for extension or expansion (including opportunities for private investment) of the covered networks, and opportunities for new, extended or expanded Pilbara networks (Rule 281(d)).
- None of the elements of the Pilbara GenSOO as set out in Rule 282, which includes reports on matters such as essential system services acquired by the ISO and an assessment of the adequacy of system capacity in the covered networks (having regard to the Generation Adequacy Objective).

This information, such as an understanding of network constraints, is vital to understand both the technical implications and financial consequences of making an investment in the NWIS.

Woodside notes that, in preparing the NCP Reports, Rule 285 entitles ISO to inform itself in any manner it sees fit. To the extent ISO considers necessary, ISO could seek information from EPWA to understand the inputs included in EPWA's techno-economic modelling to mitigate any risk of any inconsistent outcomes. Additionally, ISO could make clear that any upcoming NCP Reports and the Subchapter 10.1 Review Report (to be published by 1 July 2025) are being published ahead of, and are subject to, the outcomes of EPWA's work, which can be taken into account in the next NCP Report and Subchapter 10.1 Review Report.

It is also relevant to acknowledge that, while there is a legislated timeframe for the provision of the NCP Reports and the Subchapter 10.1 Review Report, there is no fixed timeframe for EPWA to publish the results of its techno-economic modelling and Rules review. Given the scope of EPWA's review, further delays to publication of its report could be anticipated. This is relevant to Woodside's submissions regarding the timely provision of information as outlined in section 4 below.

4 Timely provision of information required for informed decision making

Woodside submits that the NCP Reports are required by July 2025. Potential access seekers to the NWIS require the timely provision of the information in the NCP Reports in order to understand the incremental investment required to connect to the covered networks. A deferral in providing this information until July 2027 is likely to delay and potentially act as a barrier to grid connected investment decisions in the short-term. Historically, approximately 60% of installed generation capacity in the Pilbara has not been connected to the NWIS (refer improving access to, and operation of, the Pilbara electricity network – the NWIS).

In addition, it is relevant to consider how the deferral of these NCP Reports by the ISO and, as a consequence, likely associated delay to investment decisions by proponents, may interact with the SGM. Of note, the SGM aims to reduce greenhouse gas emissions from certain greenhouse gas emitting facilities in line with Australia's emission reduction targets of 43% below 2005 levels by 2030 and net zero by 2050.

Given the considerable lead times involved in transmission development, projects that require transmission development could take up to six to seven years from inception to commercial operation. In particular:

- Based on recent electricity related experience, the approvals/authorizations/consent processes can take in excess of two years (eg, the EPBC Approval decision for Horizon Power's proposed Burrup Common User Transmission Infrastructure (2022/09407));
- timeframes for negotiating commercial arrangements for a project can take approximately two years; and
- detailed design, procurement, construction and commissioning (and associated contractual arrangements), can take approximately three years.

Working backwards from those indicative timeframes, the 2030 target timing under the SGM regime is a key consideration for industry proponents which in many cases will require investment decisions to be made in 2025 to 2027 period to enable achievement of these targets.

To meet these timeframes, without the NCP Reports to assist with informing their decision making, additional costs and delay will likely be incurred by proponents to undertake their own system studies for these investment decisions (to acquire information that would otherwise be available in the NCP Reports).

This reiterates the importance of the NCP Reports being published by July 2025, to ensure proponents can meet their SGM baselines. However, if the Rule Change is to be pursued, and to the extent it is considered that ISO should be granted an extension to prepare and publish the NCP Reports, Woodside submits that up to two years is too long. Any such extension should be for the shortest feasible time after July 2025 (ie, maximum six months to December 2025), noting that Woodside understands EPWA proposes to publish the results from their techno-economic modelling and regulatory review in July 2025.

As a related comment, Woodside notes that ISO's Final Mid-Year Budget Review 2024-2025 provides a revised budget of \$400,000 for long-term planning and coordination (as opposed to the \$600,000 described in the Rule Change Proposal Form).

5 Conclusion

This submission aims to highlight the importance of the NCP Reports and Subchapter 10.1's requirement to review and report on these processes, in allowing the totality of the Pilbara Electricity

Objective to be met. The timely provision of this information by July 2025 will support efficient decision making, investment and operation of the NWIS network that meets the interests of all consumers.

Woodside would like to thank ISOCo for the opportunity to respond via submission on the Rule Change Proposal.

Yours sincerely

A handwritten signature in blue ink that reads "Reece Tonkin". The signature is fluid and cursive, with a small mark at the end.

Reece Tonkin
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Woodside Power Project