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29 April 2025

Pilbara Energy Transition Secretariat
Energy Policy WA
Department of Energy, Mines, Industry Regulation and Safety

Via email: pet.secretariat@demirs.wa.gov.au

Dear Pilbara Energy Transition Secretariat,

CONSULTATION RESPONSE ON PROPOSED REGULATORY CHANGES TO THE PILBARA NETWORKS ACCESS CODE AND THE PILBARA NETWORKS RULES

Thank you for the opportunity to provide feedback on the following consultation papers, both released by Energy Policy WA on 4 February 2025:

- **Evolution of the Pilbara Electricity Access Regime Consultation Paper,** which proposes changes to the Pilbara Networks Access Code
- **Evolution of the Pilbara Networks Rules Consultation Paper**

Energy policy in the Pilbara is fast approaching a critical juncture as momentum continues to build around unlocking renewable resources in the region, underscored by the State Government's Pilbara Energy Transition (**PET**) Plan. In this context, Horizon Power recognises the intent of the reforms proposed as part of these reforms, especially as it relates to the delivery of the PET Plan – to increase interconnection, renewable generation and private sector investment.

As you are aware, Horizon Power is a vertically integrated utility operating across the full supply chain of generation, transmission, distribution and retail services. In the Pilbara specifically, this includes responsibility for the management of Horizon Power's network in the North West Interconnected System (**NWIS**), which is a covered network under the Pilbara Networks Access Code 2021 (**PNAC**).

Given the need to ensure these covered network services are kept separate from the other parts of the business that provide and market contestable and unregulated electricity services, responsibility for the management of the NWIS network sits with Horizon Power Pilbara Network Business, a ringfenced unit within Horizon Power.

These ringfencing arrangements are important to ensuring any potential conflicts of interest are avoided and that Horizon Power's vertically integrated structure does not reduce competition in related markets.

In recognition of these arrangements, Horizon Power has provided two separate responses to the consultation papers detailed above: one from the Horizon Power Pilbara Network Business and the other from the Horizon Power's broader retail and generation business (referred to as Horizon Power Generation and Other Business), with both responses provided under the cover of this letter.

While this letter does not seek to comment on the substantive content of the two responses—nor does it favour one response over the other, especially to the extent they may be divergent in certain areas—the business' structure and ringfencing requirements need to be understood in the context of receiving and reviewing Horizon Power's responses.

Each of the two responses is therefore intended to be standalone and does not rely on the advice contained in the other.

Horizon Power would welcome the opportunity to discuss its two submissions in more detail.

- For enquires relating to the Horizon Power Pilbara Network Business's submission, please contact Sandy Morgan, Senior Manager Pilbara Network, at sandy.morgan@horizonpower.com.au
- For enquiries relating to the Horizon Power Generation and Other Business submission, please contact Vi Garrood, Executive General Manager Business Development and Strategy, at vi.garrood@horizonpower.com.au

Yours sincerely,

Stephanie Unwin
CHIEF EXECUTIVE OFFICER

Attachments:

1. *Horizon Power Pilbara Network submission*
2. *Horizon Power Generation and Other Business submission*

ATTACHMENT 1

HORIZON POWER PILBARA NETWORK BUSINESS SUBMISSION

Thank you for the opportunity to provide the attached submission from the Horizon Power Pilbara Network Business on the following Consultation Papers released on 4 February 2025:

- Evolution of the Pilbara Electricity Access Regime, which proposes changes to the Pilbara Networks Access Code (**PNAC**);
- Evolution of the Pilbara Networks Rules (**PNR**).

The Consultation Papers identify that the PNAC and PNR need to evolve as the North West Interconnected System (**NWIS**) evolves with:

- more and larger common use transmission lines;
- substantially more variable renewable energy supplies; and
- potentially more industry participants inhabiting an increasingly meshed network.

The future state modelling performed by Energy Policy WA (**EPWA**) and presented to the Pilbara Advisory Committee provides a potential view of the growth of the NWIS as a result of these drivers. However, the Consultation Papers fail to articulate the end state vision EPWA are working towards and the reasons behind it. Further, the costs and benefits of each of the proposals are currently not quantified. Accordingly, there is no quantifiable evidence to justify the proposed changes. There is also no timeframe presented for the introduction of the reforms. Proposals that will impose significant costs on users in the Pilbara should be staged to align with the growth of the NWIS so that existing users are not paying for reforms required to accommodate potential new users.

The reforms of the PNAC and PNR must balance several objectives, including the need to:

- maintain energy supply security and reliability;
- ensure that network access seekers can achieve access on reasonable prices and terms within a reasonable timeframe; and
- attract substantial private investment in new transmission lines.

The objectives presented above are in a different order to the Consultation Papers to reflect their relative importance. Maintaining a secure and reliable electricity supply is the most important objective, which is not apparent in the proposals presented in the Consultation Papers.

The circumstances in the Pilbara region are different to those in other parts of Australia and overseas. The Pilbara electricity system is dominated by a small number of large well- informed users that are on long term contracts, with network tariffs negotiated based on a price list determined in accordance with the PNAC. The Pilbara region is geographically remote, prone to cyclones and severe electrical storms, has limited resources in the area and heightened competition for those resources. Reforms to the PNAC and PNR need to be fit for purpose for these circumstances, rather than modelled on frameworks in other jurisdictions.

Further, Horizon Power Pilbara Network Business believes that the Pilbara Independent System Operator (**ISO**) role (as proposed in the Consultation Papers) should not extend beyond the powers that the Australian Energy Market Operator (**AEMO**) has in the National

Energy Market and Wholesale Electricity Market. Assigning functions to the ISO beyond AEMO's would be an overreach.

The proposals as currently drafted do not meet the objectives, as summarised below, with more details provided in our attached submission.

Maintain energy supply security and reliability

While the Consultation Papers include some proposals that seek to maintain energy supply security and reliability in the Pilbara, this does not appear to be the primary focus of the proposals, despite its importance for users of the system.[1] The proposals to expand the role of the ISO extend well beyond the role of system operators in other jurisdictions and the functions of the ISO, the first of which is:

> *to maintain and improve system security and reliability in any interconnected Pilbara system.*[2]

In many cases, the proposals will not deliver any benefits in terms of maintaining energy supply security and reliability – which should be at the core of the ISO's functions.

Furthermore, there are a couple of proposals that may run counter to maintaining energy supply security and reliability in the Pilbara, such as:

- foundation user rights – while these are intended to protect the rights of foundation users, they may have an unreasonable impost on the security and reliability of supply for other users.
- outage planning – the proposal appears to indicate that the coordinated outage planning is at the transmission level, but there may be outages at the sub-transmission and distribution level that impact flows on the transmission network.

Ensure that network access seekers can achieve access on reasonable prices and terms within a reasonable timeframe

There are a number of proposals that will increase the costs incurred to supply electricity in the Pilbara, which will increase prices for users. Examples include:

- duplication of functions between transmission and sub-transmission/ distribution – the proposals create a separation between transmission and sub-transmission/ distribution assets, including by mitigating the risks of vertical integration, and having the ISO undertake control desk functions and planning for the transmission system. This will increase costs and complexity, particularly for contestable customers that are connected to the sub-transmission or distribution networks;
- duplication of functions between ISO and the Network Service Providers (**NSPs**), such as control desk functions and planning – the NSPs will need to continue to undertake these functions even if they are undertaken on a coordinated system-wide basis by others. Additionally, there is no consideration as to whether the AEMO could undertake these functions at a lower cost than the ISO.

[1] Section 119(4)(c) of the *Electricity Industry Act 2004* states that a matter to have regard to in the Pilbara is "the importance to the Pilbara resources industry of a secure and reliable electricity supply".

[2] *Electricity Industry Act 2004*, section 120W(4)(a)

A key issue that is not addressed in the Consultation Papers is the timing of the reforms and who pays the implementation costs of these reforms. If the reforms are implemented prior to the growth of the Pilbara electricity system, the implementation costs will be borne by existing users rather than new users. Any increase in costs arising from the reforms may be difficult to pass through to users on long-term negotiated access contracts and will place upward pressure on the Tariff Equalisation Contribution.

Attract substantial private investment in new transmission lines

Investment certainty is required to attract private investment in new transmission lines. However, there are a number of proposals which will decrease the level of investment certainty, either through the proposed change or because insufficient detail has been provided in relation to the proposed change. Examples include the proposals to:

- cover all transmission assets – no commentary is provided on the coverage of sub-transmission and distribution assets, to which some contestable customers connect, and there is insufficient information on the definition and treatment of connection assets;
- split of access to and use of the transmission system – there has generally been insufficient information provided on this proposal, with no information provided on a key element of the proposal – how the NSPs' costs will be recovered and an indication of the magnitude of costs that will be allocated to each NSP.

Additionally, land access (including the establishment of CorridorCo) is a major area of uncertainty for new investments, but is not regulated through the PNAC or PNR. It is therefore not addressed in the Consultation Papers.

Evolution of the Pilbara Networks Rules

Horizon Power Pilbara Network's submission

Consultation question	Horizon Power (HP) Pilbara Network's comments
Power system security and reliability	
Proposal 1: Long term planning	
(1)(a) Do stakeholders support the proposed approach to long term planning?	With the expected growth in demand and geographical range of the Pilbara networks, HP Pilbara Networks supports the proposed coordinated approach to long term planning, noting that the Independent System Operator (ISO) already has an obligation to produce a Transmission Development Plan and GenSOO every 2 years, and the Network Service Providers (NSPs) will need to continue to do their own more detailed planning for their networks. Effective information gathering powers are important to be able to collate the information required for the plan, while respecting the commercial sensitivity of any information collected, and there should be consultation on the modelling assumptions to ensure they match industry / stakeholder views as closely as possible. Given the amount of effort to create a long-term plan, HP Pilbara Network suggests that there are longer intervals than 2 years between plans, say 3 or 4 years. If the interval between plans is 4 years, then there could be a lighter touch update during the period between plans. The proposal does not indicate the period over which planning should be undertaken. Given the level of uncertainty in the longer term, a plan over a 10-year period should suffice, with at least 3 different scenarios for the future. While 2 of these scenarios may be optimistic relative to the level of development that has occurred in recent years, at least 1 scenario needs to be realistic to minimise the risk of over-investing in the Pilbara electricity system in the hope of attracting new opportunities. To meet the State's objective "to support Aboriginal people in around the Pilbara region

Consultation question	Horizon Power (HP) Pilbara Network's comments
	to participate in, and benefit from, the Pilbara Energy Transition", there may also be value in the Pilbara System Plan identifying the Traditional Owner groups that would be impacted by new transmission infrastructure that is forecast in the plan.
(1)(b) Do stakeholders agree that the ISO is best placed to deliver the Pilbara System Plan (PSP)?	HP Pilbara Networks agrees that an appropriate ISO (which may be AEMO) is best placed to deliver the PSP in the long term. However, as there is expected to be a significant growth in demand in the short-medium term, which is driven to some extent by government policies, EPWA may be best placed to do the planning in the short to medium term. This function could be transferred to an appropriate ISO in the longer term when the policy environment is more certain and the Pilbara electricity system is experiencing a period of more steady growth. The regulatory frameworks in the National Electricity Market (NEM) facilitate efficient investment in the transmission network. However, during this period of radical change, anticipatory transmission investments are required so that they are scale efficient. As a result, many jurisdictional governments are now undertaking their own long-term planning, as they are better placed to understand the policy drivers for new investment in their jurisdiction. For example, in addition to the 2 yearly Integrated System Plan (ISP) developed by the Australian Energy Market Operator (AEMO) and the Transmission Annual Planning Reports developed by the TNSPs, in: • Victoria, VicGrid (which is part of the Department) produces a 5-yearly Victorian Transmission Plan • NSW, EnergyCo (a statutory authority) makes recommendations on transmission developments based on annual reports produced by AEMO Services on development pathways for new generation, storage and firming capacity • Queensland, the Government undertakes a 5-yearly review of the Queensland SuperGrid Infrastructure Blueprint • Tasmania, it is proposed that the REZ Co-ordinator (the Department) undertakes a

Consultation question	Horizon Power (HP) Pilbara Network's comments
	5-yearly review of the REZ Long Term Strategic Plan. Similarly, in addition to Western Power's annual Transmission System Plan, the Government released an inaugural Whole of System Plan for the SWIS in 2020, which will be updated 5 yearly. In May 2023, it published a SWIS Demand Assessment. There was significant interest expressed in grid-connected projects resulting in the publication of a SWIS Transmission Planning Update in May 2024. If the decision is made that an appropriate ISO will deliver the PSP in the short-medium term, then EPWA must provide full transparency to the ISO of the information in its possession, including the Government's policy assumptions.
Proposal 2: Network reliability standard	
(2)(a) Do stakeholders support the proposed network reliability standard?	HP Pilbara Networks notes that this section of the Consultation Paper refers to reliability standards rather than planning standards, which it describes. In principle, HP Pilbara Networks supports the proposed network planning standard for the transmission system but does not support the proposed network planning standard for the distribution system. The distribution system currently does not meet the n-1 standard – there would be a very significant cost to upgrade the system so that it does. It may not be possible to recover these costs from users on long-term contracts and it would place upward pressure on the Tariff Equalisation Contribution (TEC). HP Pilbara Networks also notes that there are some parts of the transmission system that do not meet the n-1 standard. If these parts of the transmission system are not exempted from the requirement to meet the n-1 standard, there will be a significant cost to upgrade the network so they do, and it may not be possible to recover these costs when a large proportion of the load is covered by long-term contracts. Some parts of the Pilbara electricity network meet the n-1 standard by using non-network solutions. HP Pilbara Networks queries how these should be captured in models

Consultation question	Horizon Power (HP) Pilbara Network's comments
	when sensitive commercial contracts are in place, and what information should be provided to the ISO.
(2)(b) Are there important exceptions to the reliability standard that should be included in the PNR?	Those parts of the HP Pilbara network that currently do not meet a n-1 standard should be exempted from the requirement (i.e. Horizon Power's 220kV line between Karratha and Port Hedland).
Proposal 3: Capacity forecasting	
(3)(a) Do stakeholders support the proposed method to determine the NWIS capacity requirement?	HP Pilbara Network has no comment on this topic.
Proposal 4: Individual capacity requirements	
(4)(a) Do stakeholders support the proposed exclusions from individual capacity targets?	HP Pilbara Networks supports, in principle, the proposed exclusions from individual capacity targets but: • participants with consumption served by co-located generation can only be excluded if the facility control system manages changes in load. • non-firm loads should be required to demonstrate that they have arrangements in place to ensure they won't contribute to demand during periods of scarce supply. Consideration should also be given to the treatment of any potential existing non-firm loads.
(4)(b) Do stakeholders have any other comments on determining individual capacity targets?	More information is needed on the process to determine the individual capacity targets, including the timeframe and process for any changes to those targets, to enable HP Pilbara Networks to provide a meaningful response.
Proposal 5: Capacity certification	
(5)(a) Do stakeholders support the proposed conditions for self-certification?	HP Pilbara Network has no comment on this topic.
(5)(b) Do stakeholders support the proposed methods	HP Pilbara Network has no comment on this topic.

Consultation question	Horizon Power (HP) Pilbara Network's comments
for assessing capacity contribution of different types of facility?	
Proposal 6: Backup capacity procurement	
(6)(a) Do stakeholders support central capacity procurement as a backstop in case of shortfall?	HP Pilbara Network has no comment on this topic.
(6)(b) Do stakeholders support the proposed approach to capacity procurement?	HP Pilbara Network has no comment on this topic.
Proposal 7: ESS framework	
(7)(a) Do stakeholders support the proposed approach to essential system services (ESS)?	HP Pilbara Network has no comment on this topic.
(7)(b) Do stakeholders support the proposed approach to ESS procurement?	HP Pilbara Network has no comment on this topic.
Proposal 8: ESS cost recovery	
(8)(a) Do stakeholders support the proposed cost recovery methods?	HP Pilbara Networks supports the proposed cost recovery methods: • on the basis that the allocation of costs associated with Continency Reserve Raise has regard to the actual load on a generating unit, in addition to its capacity, rather than just the capacity of the generation unit. • On the basis that allocation of costs associated with Continency Reserve Raise has regard to any transmission contingencies that can impact several generators. • noting that 'participants' for the purpose of this proposal is not defined, but is assumed to mean loads and generators, and not NSPs. • assuming that, if all the required data is readily available to an appropriate ISO, the costs to implement these enhanced causer pay ESS requirements should be reasonable (and thus justified).

Consultation question	Horizon Power (HP) Pilbara Network's comments
Proposal 9: System strength	
(9)(a) Do stakeholders support the proposed approach to system strength and fault level settings?	The Harmonised Technical Rules currently provide guidance on system strength and fault level settings, but they are not prescriptive, resulting in different standards across the network. Accordingly, this will be an emerging issue that needs to be considered. However, the proposal is too high level to enable a meaningful response; more information is required. HP Pilbara Networks notes that the Pilbara ISOCo is developing a scope to study system strength.
Proposal 10: Outage planning	
(10)(a) Do stakeholders support the proposed outage process?	HP Pilbara Networks has previously commented on a proposal to provide the ISO with the necessary powers to give direction in connection with the scheduling and management of notifiable events.[1] In the previous submission, it was noted that: • Due to the circumstances in the Pilbara (geographically remote, limited specialist resources in the area and heightened competition for those resources), internal and external resources are planned, coordinated and secured months in advance of a planned outage. Accordingly, flexibility and certainty for planned works needs to be preserved as much as practicable. • The ISO would need to be very clear on the specific information/risk assessment that is required to approve a planned notifiable event to ensure a smooth and cost-efficient process. • The ISO would need to provide clarification on what scenarios (if any) it would is consider when assessing whether to reschedule/cancel an already approved notifiable event (outage for example) outside of a scheduling conflict arising due to a system security risk. • Should the ISO consider cancelling/re-scheduling already approved planned

[1] Refer https://pilbaraisoco.com.au/wp-content/uploads/2024/11/Submission-Horizon-Power-Networks-Review-of-Subchapters-7.3-and-7.4.pdf

Consultation question	Horizon Power (HP) Pilbara Network's comments

	notifiable events (outages) and the driver for the planned notifiable event is driven by a safety or urgent maintenance requirement, then the ISO would be assuming a level of responsibility should that asset fail because of the lack of maintenance.
	• If the proposed centralised outage process results in increased costs, this will result in increases in network tariffs. Examples of how this could occur are:
	  ○ If the ISO implements costly mitigation measures because of lower risk tolerances compared to the existing NSP's requirements.
	  ○ If the ISO requires the NSP to implement mitigation measures that are typically implemented on a system level (i.e. Incremental ESS).
	  ○ If the ISO retracts approvals, reschedules outages or requires additional mitigation measures after an approval has been granted.
	HP Pilbara Networks supports a flexible, efficient and transparent outage management process for the Pilbara. The following aspects remain to be adequately addressed under the current proposal:
	• HP Pilbara Networks assumes that the reporting of network outages relates only to outages on the transmission network or on the sub-transmission / distribution network where this may have a material impact on electricity flows on the transmission network.
	• With an increasingly interconnected network, the ability to identify and consult with all affected parties prior to submitting outage requests to the ISO may be impractical. Given the notice period and the coordination of planned outages by ISO, HP Pilbara Networks proposes that the NSP be required to notify (rather than consult) parties that are impacted.
	• A network outage may affect power system reliability on an interconnected network. When an outage is planned, the ISO should be responsible for coordinating mitigation plans across multiple networks to ensure that the impact

Consultation question	Horizon Power (HP) Pilbara Network's comments
	on the reliability of all users is considered. • Unlike many regions in Australia, the Pilbara has a cyclone season that can materially impact outage planning. Damage caused by cyclones and electrical storms can require reprioritisation of the outage schedule. The need for frequent rescheduling of activities has not been considered in the current proposal. • It is unclear from the proposal how outages associated with transmission customer connections will be considered in the process. Will these outages also need to be scheduled within the same timeframe as other planned maintenance outages? Given the uncertainty around new connections, what allowances would be made for shifting the outage window? Would customers be at risk of losing their outage window should their procurement or financial approvals be delayed? • Consideration should also be given to providing flexibilities with the provided outage window to accommodate any interdependent approvals that may be required for the outage to proceed. This may include heritage and environmental approvals for outages that also include related works that disturb previously undisturbed land. • Additionally, when ISO assesses the impact on power system security and reliability to decide whether to approve outages, it needs to take into consideration: o that the access contracts with users allow for outages to occur o the potentially excessive costs of mitigating the reliability impact, particularly for the large number of distribution-connected customers on a n-0 network o the cost over the longer term if facilities cannot be maintained o that the ESS arrangements will deal with the impacts on the security of supply o the reasonableness of requested outage windows. Requiring separate parties to compete for and reserve outage windows in advance encourages parties to overestimate their requirements to prevent the windows being reserved by

Consultation question	Horizon Power (HP) Pilbara Network's comments
	others in the region. HP Pilbara Networks suggests that the changes to outage planning be made when the Pilbara electricity system becomes more complex.
(10)(b) Are there other circumstances in which self-scheduling outages could be allowed?	On the basis that appropriate risk considerations have been undertaken, there may be value in having flexibility within approved outages to extend areas of isolation to perform opportunistic maintenance where these extensions are within the same impacted region (i.e. not additional impact to the flow of electrons or system security) E.g. One isolator further back on the same circuit to perform opportunistic outages. HP Pilbara Network queries if the outage process is intended to only address primary assets (i.e. not real time signal, SCADA, protection, etc.).

Consultation question	Horizon Power (HP) Pilbara Network's comments
Proposal 11: Outage plan timing	
(11)(a) Do stakeholders support the proposed outage timeframes?	The proposed 1-year minimum notice period is a significant extension on the current 2-week timeframe; this will require changes to existing processes. The minimum period should only be extended to 3 months initially, with an appropriate transition process, and only extended beyond this timeframe once proven necessary to do so when greater coordination is required with more participants and greater levels of interconnection. Visual inspections, particularly after a cyclone or intense storm, can also highlight the need for urgent remediation works. These outages may be given a form of priority approval process due to the safety risks associated with unplanned failure. However, how will the process manage gaming under such a priority arrangement (i.e. what will prevent a party submitting all outages as urgent?). HP Pilbara Networks seeks more information on the process for re-scheduling an outage if approval is withdrawn or the outage is recalled. The process should also include allowances for flexible short outages that seek to take advantage of gaps in the outage schedule. Such outages could include short outages to connect a new customer or to manage an asset relocation for a major state initiative (i.e. Main roads request, high loads). Due to the limited impact of these outages, a more flexible approach should be permitted.
(11)(b) Are there other aspects of outage costs that the PNR should cover?	HP Pilbara Networks notes that any additional ESS required during an outage will need to be recovered through the ESS cost recovery framework as ESS benefits all parties connected to the NWIS. HP Pilbara Networks queries who will pay the compensation costs if approval for an outage is withdrawn or the outage is recalled. While it could be assumed from the Consultation Paper that ISO pays the compensation costs, which are then allocated as per the cost recovery arrangements for the ISO, HP Pilbara Networks is of the view that

Consultation question	Horizon Power (HP) Pilbara Network's comments
	there should there be some consideration as to why the ISO needs to withdraw approval or recall an outage, with the costs allocated on a causer pays basis. If the cause is due to a failure elsewhere or another outage taking longer than expected, this would provide the appropriate incentives to those parties. Given the geographical isolation of the Pilbara, a longer period than one week is required for the ISO to withdraw approval of an outage or recall an outage. HP Pilbara Networks proposes that the minimum notice period should be 1 month notice unless reason for removing the approval is due to system security reasons.
Scheduling and dispatch	
Proposal 12: Balancing mechanism	
(12)(a) How close to real-time could trading market outcomes be finalised and still allow participants to manage their portfolios?	HP Pilbara Network has no comment on this topic.
(12)(b) Do stakeholders have any other comments on the proposed trading and balancing mechanisms and arrangements?	HP Pilbara Networks notes that the Consultation Paper provides no indication as to how losses will be taken into consideration.
Proposal 13: Metering	
(13)(a) Do stakeholders have any comments on the proposed changes to metering data management?	HP Pilbara Networks does not have any comments on the proposed changes to metering data management.
Proposal 14: Manual load shedding plan	
(14)(a) Do stakeholders agree with the proposed arrangements for planning for manual load shedding?	HP Pilbara Networks agrees with the proposed arrangements for planning for manual load shedding.

Consultation question	Horizon Power (HP) Pilbara Network's comments
ISO Governance	
Proposal 15: ISO functions	
(15)(a) Do stakeholders support the move away from an administrative ISO?	In 2018, AEMO examined 3 ISO models for the WA Public Utilities Office: • Administrative ISO model – which provided a post-incident presence, reconciliation of settlement costs, reporting function, and planning functions. • Operating ISO model – which provided, in addition to the Administrative ISO model, a 24/7 monitoring desk, provided directions in response to events, and reporting and monitoring functions. • Full ISO model – which provided, in addition to the Operating ISO model, a 24/7 active desk, co-optimised dispatch via dispatch instructions from ISO, a settlement agent and pre-dispatch planning.[2] Based on AEMO's definitions, the ISO has already moved away from an administrative ISO model as it has a 24/7 monitoring desk – a function delegated to Horizon Power. This function was included in the "Operating ISO" model rather than the "Administrative ISO" model. Notwithstanding, HP Pilbara Networks supports an appropriate and cost-effective ISO (which may be AEMO) taking on more functions – this will be necessary as the Pilbara electricity system evolves. The arrangements in the Pilbara are currently bilateral, but these become more complex as the network becomes more complex and the number of NSPs/ generators / energy storage providers increases. Coordinated system-wide functions are required, and these could be undertaken by an appropriate ISO. The timing of the changes required should align with new transmission investment by other NSPs and the connection of new generators / energy storage providers.

[2] AEMO, *Review of Independent System Operator Role in North West Interconnected System, Final Report for the Public Utilities Office*, November 2018, page 28.

Consultation question	Horizon Power (HP) Pilbara Network's comments
(15)(b) Do stakeholders support the ISO taking the control desk function in-house?	The ISO currently has responsibility for the control desk functions. ISO has chosen to delegate these functions to Horizon Power. It is ultimately ISO's decision as to whether they undertake the function in-house noting that costs will increase for both ISO and HP with loss of economies of scale if they did so. HP Pilbara Networks believe AEMO should be considered for the ISO role given the significant further move away from an administrative ISO model. If so, then AEMO already has an existing control desk and hence would not need to outsource or delegate this function. In the interim, as an alternative, Pilbara ISOCo has the option to delegate this function (and others) on a competitive and transparent basis. Under this procurement process, Pilbara ISOCo can take into account cost-effectiveness and perceived concerns raised in the Papers.
(15)(c) Do stakeholders agree with the proposed time frame for shifting control desk functions?	The ISO should make the decision on the timing for shifting control desk functions, taking into consideration the costs and benefits for shifting the functions, how those costs will be allocated between current participants and new participants, and the timing of new transmission investment by NSPs and connection of new generators / energy storage providers. Notwithstanding, the proposed timeframe for shifting control desk functions (January 2027) will be challenging – it would need to commence soon and be project managed well. Certain actions that would need to be taken by the ISO in the short term include: • recruitment and training of sufficient controllers to roster for 24/7 coverage • preparation and consultation on standards and requirements for parties to provide visibility to the ISO control desk (i.e. what, if any, redundancy would be required in the provision of real time signals) • confirmation that the visibility list remains appropriate, if not, arrangements to be made for new points to be added.

Consultation question	Horizon Power (HP) Pilbara Network's comments
Proposal 16: ISO board	
(16)(a) Do stakeholders support the ISO board being independent of participants?	The current Pilbara regime was implemented as a low cost, flexible and light-handed model, which did not require sophisticated governance structures and compliance regimes. HP Pilbara Networks accepts that, as the interconnected Pilbara electricity system grows, the governance of the ISO Board will need to evolve, including for the ISO Board to be independent of participants with less focus on NSPs and more focus on generators / energy storage providers. However, we recognise that this will increase the costs associated with the Pilbara electricity system. The timing of the changes to the ISO Board should align with new transmission investment by other NSPs and the connection of new generators / energy storage providers in the Pilbara electricity system. In the meantime, 2 additional directors could be added to the ISO Board to represent participants other than the NSPs (generators and users).
(16)(b) Do stakeholders support the proposed board arrangements?	In the longer term, HP Pilbara Networks supports considering moving the system operations functions to an existing independent entity, such as the AEMO. Should an AEMO option not prove appropriate, HP Pilbara Network supports an ISO Board comprising an independent Chair, a CEO, plus 3 directors appointed by the Minister: • 1 nominated by the NSPs in the Pilbara • 1 nominated by the generators / energy storage providers in the Pilbara • 1 nominated by loads in the Pilbara. The directors may or may not be an employee of the relevant group of participants. A skills matrix for the ISO Board should be developed and maintained, and should be taken into consideration when nominating potential new directors.
(16)(c) Do stakeholders agree that board composition and ISO cost recovery should be amended at the same	The ISO cost recovery arrangements should be amended as soon as any reforms which increase the costs incurred by ISO are implemented.

Consultation question	Horizon Power (HP) Pilbara Network's comments
time?	
Proposal 17: ISO budget	
(17)(a) Do stakeholders support the proposed budget arrangements?	HP Pilbara Networks supports the proposed ISO budget arrangements subject to the following: • to minimise the costs of the review and approval process, the PNR should outline what is to be included in the budget and the level of detail required • the budget should include a 'true-up' mechanism to deal with any under- or over-recovery of costs.
Proposal 18: ISO fees	
(18)(a) Do stakeholders support the proposed approach to ISO cost recovery?	The ISO cost recovery approach is consistent with the WEM, which is more simplistic compared to other regimes. A more complex approach could be adopted which considers the drivers of costs, in particular, whether they are based on, for example, the demand, energy or number of connection points. This would ensure a more equitable allocation of costs. HP Pilbara Networks understands that the reference to participants in this proposal is to entry, exit, bidirectional point users (i.e. not including Covered NSPs). Depending on the functions undertaken by the ISO, there should also be consideration of a schedule of fees for certain activities that are undertaken for a particular participant (user pays).
(18)(b) Do stakeholders support the proposed timing for changes to ISO cost recovery?	As indicated above, the ISO cost recovery arrangements should be amended as soon as any reforms which increase the costs incurred by ISO are implemented.
Proposal 19: Confidential Information	
(19)(a) Do stakeholders support the principle of transparency of information?	HP Pilbara Networks supports the principle of transparency of information.
(19)(b) Do stakeholders agree with the proposed	HP Pilbara Networks supports the proposed criteria for designating confidential

Consultation question	Horizon Power (HP) Pilbara Network's comments
criteria for designating confidential information?	information, while noting that demand and capacity forecasts are public information in aggregate, but confidential information if the demand or capacity for an individual customer can be estimated based on that data.
(19)(c) Do stakeholders support the provision of real-time operational data with the ISO?	HP Pilbara Networks supports the provision of real-time operational data with the ISO to the extent that this data is required to enable ISO to perform its functions and the confidentiality of that information is protected. HP Pilbara Networks queries how the costs are intended to be allocated for provision of real-time operational data to an appropriate ISO, noting that the provision of the data is for system security purposes and hence is for the benefit of participants?
Proposal 20: Compliance monitoring	
(20)(a) Do stakeholders support the ISO having a more explicit compliance monitoring function?	HP Pilbara Networks supports an appropriate ISO having a more explicit compliance monitoring function once the functions undertaken by ISO increases, and there is an appropriate trade-off between the costs and benefits of the compliance monitoring regime. The current arrangements should continue until then.
(20)(b) Do stakeholders agree with the proposed activities for the ISO's initial monitoring?	HP Pilbara Networks agrees with the proposed activities for the ISO's initial monitoring, noting the need for commercial information to be protected as part of the compliance monitoring activities.
(20)(c) Do stakeholders see any issues with the proposed monitoring arrangements, and if so, what?	The Economic Regulation Authority (ERA) currently has the responsibility to investigate suspected breaches of the PNR by the ISO. HP Pilbara Networks queries whether the compliance monitoring of the ISO also needs to be strengthened.
Proposal 21: Compliance enforcement	
(21)(a) Do stakeholders support the proposed enforcement measures?	HP Pilbara Networks supports the proposed enforcement measures once the functions undertaken by an appropriate ISO increases.
(21)(b) Are there any other enforcement options stakeholders consider would be useful in the PNR?	HP Pilbara Networks has not identified any other enforcement options that would be useful in the PNR.

Consultation question	Horizon Power (HP) Pilbara Network's comments
New connections	
Proposal 22: NSP to NSP connection arrangements	
(22)(a) Do stakeholders agree with the proposed approach to network interconnections?	The exemption for self-contained networks to show compliance with Chapter 2 of the HTR should, consistent with Proposal 24, be dependent on whether it is an excluded network and whether the self-contained network chooses to be treated as a network user (demonstrating compliance at the connection point with the NWIS) or a network (compliance of all critical equipment within that network unless an Excluded Network). Self-contained network infrastructure should not "opt to" demonstrate compliance at the interconnection point to the NWIS. As per Proposal 24, if they choose to be treated as a network user, and are not an excluded network, they should be required to demonstrate compliance at the interconnection point to the NWIS. In addition, costs associated with the interconnection process should be funded by the NSP that has initiated the interconnection process (similar to an applicant seeking access under the PNAC).
Proposal 23: Preferential supply for transmission foundation customers	
(23)(a) Do stakeholders agree that foundation customers should be treated differently from customers who have not funded transmission expansion?	In principle, HP Pilbara Networks agrees that foundation customers should be treated differently from customers who have not funded transmission expansion but notes that the proposal in the Consultation Paper is too conceptual to enable detailed comments to be provided. HP Pilbara Networks is of the view that any difference in treatment should apply to retrospective foundation customers as well as prospective foundation customers. If a customer receives a rebate from a subsequent applicant, that customer should no longer be treated as foundation customer. The ISO should be consulted on any foundation user rights prior to their inclusion in any access contracts to ensure they can be delivered and do not impinge on the reliability and security of the network, and to assess the extent to which they may impinge on the

Consultation question	Horizon Power (HP) Pilbara Network's comments
	rights of other users, and whether this is reasonable. It is highly problematic to state that foundation customers should be entitled, by default, to firm supply for their loads when there are a myriad of reasons why this may be difficult to achieve in an interconnected network. For example, if the transmission investment is built to an n-0 standard rather than an n-1 standard, such a firm supply cannot be assured. While it is proposed that there will be sufficient capacity for a 1 in 10 year event plus a reserve margin, this does not cover all eventualities. If certain customers are to be provided with preferential treatment in the dispatch and settlement process, the ISO should have an appropriate process to prioritise the provision of this preferential treatment across all customers, taking into consideration any foundation user rights provided in the relevant access contracts. That said, HP Pilbara Networks queries how they will be able to do this with increased interconnection and increased variable energy supplies, noting that the ability to prioritise will depend on the granularity of the constraint equations. HP Pilbara Networks expects that, if generation to any load is constrained in balancing, energy will be allocated to that load from other sources. Similarly, HP Pilbara Networks expects that any customer with dedicated generation that is constrained after trading positions are finalised would be settled without imbalance penalties.
(23)(b) Do stakeholders agree with the proposed approach to providing certainty of access to foundation customers?	Refer comments above
Proposal 24: Self-contained networks	
(24)(a) Do stakeholders agree with the proposed approach to self-contained networks?	HP Pilbara Networks agrees that all network operators must be either a NSP or a network user and must meet the relevant requirements. The more stringent requirements proposed should only apply if the self-contained network could materially impact the NWIS. If a user subsequently connects to a self-contained network, then the network operator

Consultation question	Horizon Power (HP) Pilbara Network's comments
	becomes an NSP. This approach needs to be applied to both the HTR and the PNR. Having an arrangement in which an entity is classed as an NSP under the PNR but only needs to comply with the HTR as a Network User will be problematic. With all the changes that have been, and are being, made to the PNR, HP Pilbara Networks suggests that the definitions of "NSP" and "network user" need to be considered, and all obligations should be reviewed to ensure they are consistent and continue to be appropriate. For example, the current drafting is problematic with the 10MW threshold for Excluded Networks as CPC Facility Networks are classed as Excluded Networks. EPWAs proposal of automatic removal of Excluded Network status under proposal 24.4 will impact the application of CPC measures.
(24)(b) Are there other aspects of the existing PNR that provide barriers to connection of self-contained networks?	HP Pilbara Networks has not identified other aspects of the existing PNR that provide barriers to the connection of self-contained networks.
Proposal 25: Storage participation	
(25)(a) Do stakeholders agree with the proposed changes to accommodate storage facilities?	HP Pilbara Networks agrees with the proposed changes to accommodate storage facilities.
(25)(b) Are there other matters that Energy Policy WA should consider in relation to the treatment of storage facilities in the PNR?	The ISO's Interim Access and Connection Procedure will need to be updated in line with the changes to the PNR.
Proposal 26: Demand side participation	
(26)(a) Do stakeholders agree with the proposed approach to demand side participation in the Pilbara?	HP Pilbara Networks agrees with the proposed approach to demand side participation in the Pilbara.
(26)(b) Are there other services that demand	HP Pilbara Networks has not identified other services that demand participation could

Consultation question	Horizon Power (HP) Pilbara Network's comments
participation could provide in the NWIS?	provide in the NWIS.
Development of the Harmonised Technical Rules (HTR)	
Proposal 27: HTR standards	
(27)(a) Do stakeholders agree that the HTR should be the only technical standards for the NWIS?	HP Pilbara Networks agrees that the HTR parent instrument for technical standards in the NWIS with subsidiary instruments such as technical standards.
(27)(b) Do stakeholders agree that the HTR should include both default and minimum standards?	HP Pilbara Networks agrees that the HTR should include both default and minimum standards, noting that minimum standards first need to be determined. HP Pilbara Networks requests that it be consulted further on the development of the minimum standards.
Proposal 28: HTR negotiation framework	
(28)(a) Do stakeholders support the proposed negotiation framework?	In principle, HP Pilbara Networks supports the proposed negotiation framework noting that: • it is dependent on the Harmonised Technical Rules including minimum and default standards • the penalties for non-compliance with any negotiated standard and non-compliance mechanisms should also be defined • the PNAC already requires that the NSP's estimated timeframe for connection assessment activities is published in the User Access Guide • if NSPs are required to publish the actual timeframe for connection assessment activities period, this should separately identify the timeframe for activities that are within the control of the NSP and the timeframe for activities that are outside the control of the NSP, e.g. waiting for information to be provided and decisions to be made, by applicants and the ISO's timing • the ISO should (rather than may) provide guidance for acceptable bounds of negotiation, evidence and mitigation measures.

Consultation question	Horizon Power (HP) Pilbara Network's comments
Recommended Changes to the HTR	
	HP Pilbara Networks provides the following comments in relation to the recommended Technical Rules changes: • HP Pilbara Networks requests further details on timing of each of the proposed HTR changes in the Implementation Plan, with due consideration of transition periods. • In relation to: o the definition of contingency events - HP Pilbara Networks agrees that the definitions in the PNR and HTR need to be aligned but does not support the adoption of the definition of contingency events as per the AEMC. The AEMC is for the NEM which is an interconnected network with measures/abilities in place to perform maintenance, penalties for outages, market construct for compensation etc. The NWIS is largely radial, with each NSP or controller balancing their own load. Adoption of the AEMC clause will result in inefficient maintenance of equipment, outage deferrals and asset failures (due to minimal maintenance windows). This will also result in inefficient dispatch of generation by some parties. Once the system evolves and becomes more interconnected, there may be value in revisiting the appropriateness of the AEMC definition at that stage. o the 'Power System Performance' issue and associated studies – the Implementation Plan should identify the relevant timing for each of the studies identified. o 'Under Voltage Ride Through' – HP Pilbara Networks notes that further studies will be required (link to studies under Power System Performance) and requests to be consulted in this regard. o Fault Level Management – HP Pilbara Networks notes that planning mechanisms typically include a safety margin when planning for maximum fault

Consultation question	Horizon Power (HP) Pilbara Network's comments
	levels, and a maximum fault level which is no more than 95% of equipment capability should be considered. ○ Underfrequency Load Shedding (UFLS) schemes – HP Pilbara Networks notes there will be additional resource requirements for provision of UFLS information. It may be appropriate to consider a glide path or transition plan for this item. HP Pilbara Networks requests to be consulted further on the drafting and development of the recommended Technical Rules changes, before the proposed changes go out for public consultation.

Evolution of the Pilbara Electricity Access Regime

Horizon Power Pilbara Network's submission

Consultation question	Horizon Power (HP) Pilbara Network's comments
Creating the new common-user Pilbara grid	
Proposal 1. Coverage	
(1)(a) Do you support the proposal that almost all transmission assets (barring small single user connection assets) should be covered, with no ability to revoke coverage?	HP Pilbara Networks generally supports the coverage of all new transmission assets, but greater clarity is needed if this proposal is to provide certainty for new investments, in particular: • whether coverage applies only to transmission assets, rather than all network assets (including sub-transmission and distribution assets to which contestable customers are connected) • whether it applies only to assets that are part of the interconnected Pilbara network, and if so, whether it applies to those assets if they subsequently become part of the interconnected Pilbara network • how "small single user connection assets" will be defined, noting that it needs to reflect the size and nature of the Pilbara network • whether there will be exemptions for certain connection assets • whether assets on the user side of the connection point are excluded. Proposal 1.2 states that the default form of regulation is 'PNAC-style' regulation, but the Minister can impose ENAC style regulation or an NSP can opt in. HP Pilbara Networks queries whether EPWA's workstream that is currently considering reforms to the ENAC is taking into account that it could regulate covered Pilbara networks.

Consultation question	Horizon Power (HP) Pilbara Network's comments
(1)(b) How should access to connection assets be managed? Do you have any comment on the NEM's 2023 reforms in this respect?	The term "connection assets" is currently not defined in the regulatory framework. HP Pilbara Networks has defined "connection assets" in its Contributions Policy as "all of the network assets that are used only in order to provide covered services at the connection point". It is assumed that this definition, or a similar definition, will be applied. HP Pilbara Networks only classifies assets as "connection assets" if there are no loads or generators that would likely seek connection to those assets in the foreseeable future. That is, in the foreseeable future, those assets are provided for a single load or generator. If it is foreseeable that a load or generator will connect to the assets in the future, the assets are classified as shared assets. HP Pilbara Networks assumes that the proposal to cover connection assets, except small single use connection assets, applies only to new connection assets, whether these be transmission, sub-transmission or distribution assets.
(1)(c) Do you support the proposed legacy treatment for existing networks?	HP Pilbara Networks supports the proposed legacy treatment for existing networks, subject to retaining the option to opt in to full regulation under the ENAC and the ENAC being updated to modernise the coverage criteria.
Proposal 2. Managing Vertical Integration	
(2)(a) Are the measures and benchmark set out in Box 5 an appropriate way to judge outcomes in managing vertical integration?	The measures and benchmark in Box 5 do not provide a clear basis for judging outcomes in managing vertical integration. They are effectively a restating of the ringfencing objectives that are already contained in the PNAC. The application of the types of measures and benchmark in Box 5 would need to take into consideration the secondary objectives as set out in section 127(2) of the PNAC, that is: • flexibility, recognising the fact that the structure and nature of NSPs' businesses differ substantially • a balancing of cost and disruption against the primary objective of Chapter 8 • flexibility to deal with changing circumstances over time.

Consultation question	Horizon Power (HP) Pilbara Network's comments
(2)(b) Should the regime prescribe the measures and benchmark set out in Box 5 as a formal tool for use by the ERA or an arbitrator to evaluate measures to manage vertical integration proposed by an NSP, and the outcomes from those measures?	The regime should not prescribe the measures and benchmark set out in Box 5 as a formal tool for use by the ERA or an arbitrator to evaluate measures to manage vertical integration proposed by an NSP, and the outcomes from those measures. As discussed above, they are not practicable, and are already adequately addressed in the PNAC, including the ringfencing policy objective and secondary objectives, the published Services and Pricing Policy, etc.
(2)(c) Do you favour Option A, Option B or Option C?	HP Pilbara Networks does not favour the options as presented. However, HP Pilbara Networks recognises the need for change and proposes that: • the appropriate ISO (which may be AEMO) be provided with the powers to undertake some additional functions that would benefit from **system-wide coordination**, e.g. whole of system planning and publication of outage planning schedules • there is greater transparency of functions that do not need to be coordinated system-wide and continue to be undertaken by the NSPs, e.g. the queue for access applications and NSP's related business associated contracts (with commercially sensitive information redacted). If this is not sufficient to address the perception of discrimination and other harmful conduct, HP Pilbara Networks supports that the Pilbara network business be separated from the rest of Horizon Power through the creation of a subsidiary company (i.e. Option A), which would require the approval of the Portfolio Minister and Treasurer. HP Pilbara Networks proposes that this be done when the planned expansion of the Pilbara network is realised.
(2)(d) If you favour Option B, how could it best be implemented in a way which comes closest to the benchmark set out in Box 5, and which maximises the benefit offered by its flexibility, without becoming too complex or compromising the quality of outcomes in managing vertical integration?	Refer comments above.
(2)(e) If you favour Option B, please comment on the preliminary list of sensitive functions in Box 6. What	HP Pilbara Networks does not support Option B as a mechanism for supporting vertical integration. However, further to our response above, the appropriate ISO (which may be AEMO)

Consultation question	Horizon Power (HP) Pilbara Network's comments
else might need to be removed from a vertically integrated NSP's control or influence, to ensure that its vertical integration does not jeopardise effective third-party access? Is the ISO (suitably independent and resourced) the appropriate entity to take on these functions?	should be provided with the powers to undertake some functions that would benefit from **system-wide coordination** and there should be greater transparency of functions that do not need to be coordinated system-wide and continue to be undertaken by the NSPs. HP Pilbara Networks does not support an overreach of ISO's functions such that ISO is performing more functions than those undertaken by the system operator (such as AEMO) in other jurisdictions. HP Pilbara Networks' comments on the functions nominated in the Consultation Paper are as follows: • **Control desk function** – this is already an existing ISO function that has been delegated to Horizon Power. The ISO can choose to bring it in-house or to delegate the function on a competitive and transparent basis. Further commentary is provided in HP Pilbara Networks' submission on the PNR. • **Outage planning** – please refer to HP Pilbara Networks' comments on this function in the submission on the PNR. • **Connection process** – the ISO already has a role for connections greater than 10 MW, a threshold that was set by the ISO. • **Queue for access applications** – the PNAC already requires NSPs to consult on, and publish, a queueing policy as part of the user access guide. The NSPs could publish their queue subject to the redaction of any commercially sensitive information. • **Scrutinising the NSPs' related business associate contracts** – the NSPs could publish these contracts with commercially sensitive information redacted. • **Scrutinising foundation user contracts** – the ISO should monitor these contracts for potential imposts on other users, and assess whether these are reasonable. Under the proposal, the NSPs will still undertake these functions with respect to the sub-transmission and distribution system, to which contestable customers are connected. As a result, the proposal does not obviate the need for the NSPs to have a control desk function, implement ringfencing arrangements, undertake planning etc. Prior to agreeing that the ISO take on additional functions:

Consultation question	Horizon Power (HP) Pilbara Network's comments
	• alternative options should be considered, such as greater transparency • the declining role of Horizon Power in the Pilbara should be taken into consideration to assess whether the benefits of change continue to outweigh the additional costs • there is a need to consider the impact on the ISO's and the NSPs' risks and liabilities. HP Pilbara Networks notes that, if the ISO undertakes more functions, the ISO's costs will increase and there will be conflicts of interest that the ISO will need to manage. The ISO's additional costs and the loss of economies of scale for the NSPs will increase the costs incurred by all users and place upward pressure on the TEC.
(2)(f) Option B envisages that interventions might be assessed on a granular basis, with different levels of transfer or supervision being applied to each sensitive function. Would you see benefit in implementing Option B even more flexibly, such that some interventions might also differ between networks, or would the associated complexity outweigh the benefit?	If the case can be made for a function to be undertaken by the appropriate ISO to leverage the benefits of system-wide coordination, then it should be undertaken by the ISO for all NSPs.
(2)(g) If you favour Option C, please describe how it could be implemented in a way which materially advances from the status quo, and which comes closest to the benchmark set out in Box 5. If you are a prospective access seeker, what would be required under Option C to give you confidence that an NSP's vertical integration was being effectively mitigated? If you are a prospective NSP, how would you ensure that prospective access-seekers will consider your measures credible?	The Economic Regulation Authority (ERA) must already approve an NSP's initial ringfencing rules and any revisions to the ringfencing rules. Potential options to consider to increase confidence that an NSP's vertical integration is being effectively mitigated are to provide the ERA with greater powers to initiate audits of ringfencing arrangements, to require revisions to ringfencing rules if breaches are identified, to review procedures for monitoring and compliance, and to review associate arrangements.
(2)(h) You are welcome to comment of the	HP Pilbara Networks does not support combining the outsourced delegate role under

Consultation question	Horizon Power (HP) Pilbara Network's comments
convergence between operational separation under Option A, the more interventionist end of sensitive function transfer under Option B, and the (shelved) 'NSP Co' model discussed at page 40 below. In particular, do you see advantages or disadvantages in the outsourced delegate role under operational separation being either separate from, or combined with, the broader ISO role under the PNR?	operational separation with the broader ISO role under the PNR. While the appropriate ISO could manage a system using sensitive information from multiple NSPs, that same party could potentially engage in harmful conduct when conducting business and making decisions that may impact more than one NSP. It could engage in conduct that privileges one or more NSPs over other NSPs.
(2)(i) Early project proponents, please comment on the matters set out in proposal 2.7, or contact EPWA to discuss them further.	Not applicable.
(2)(j) Existing NSPs, please comment on the matters set out in proposal 2.8, or contact EPWA to discuss them further.	HP Pilbara Networks supports legacy protection but questions the application to "existing assets". It would be unworkable if different arrangements applied in respect to new assets, particularly on the distribution network, or to various new components on an existing line or in an existing substation (e.g. the replacement of a transformer in a substation).
Managing access across multiple networks	
Proposal 3. Managing multiplicity of contracts – splitting access in two	
(3)(a) Please comment on the proposal to split access, with connection/ interconnection, injection and withdrawal managed by contract as now, and TUOS managed by the PNR.	There is insufficient information in the Consultation Paper for HP Pilbara Networks to meaningfully comment on the proposal to split access to and use of the transmission system. HP Pilbara Networks seeks more clarity on the proposal, including whether it applies only to transmission networks and whether it covers all transmission networks. The key area where there is a lack of clarity is the charging for TUOS, which is not discussed at all in the Consultation Paper. This clarity is required to provide revenue certainty and is critical to determine, e.g.: • the feasibility of the proposed models

Consultation question	Horizon Power (HP) Pilbara Network's comments
	• how NSPs recover the costs associated with transmission assets • the impact on tariffs (particularly when these are generally locked into long term contracts) • the financial flows • the prudential requirements • whether coverage applies only to transmission assets, rather than all network assets (including sub-transmission and distribution assets to which contestable customers are connected) • whether it applies only to assets that are part of the interconnected Pilbara network, and if so, whether it applies to those assets if they subsequently become part of the interconnected Pilbara network. HP Pilbara Networks requests that the details of the proposal be clarified using the existing 132kV Karratha to Dampier transmission line (called Red Dog Line) as an example. The proposal introduces risks for HP Pilbara Networks (and other NSPs) if they will "no longer have direct contractual control over any operational or commercial matters involved", as indicated in the Consultation Paper. HP Pilbara Networks does not want to lose the ability to curtail services on an interconnector if that impacts system security and reliability for customers connected to the sub-transmission or distribution system.
(3)(b) Having regard to the current content of the PNR and HTR, and the reforms being proposed concurrently under the Evolution of the Pilbara Networks Rules review, are there any matters which might have been regulated by a TUOS contract which could not be adequately regulated by the amended PNR/HTR? If so, for any such matters would it be inappropriate or unworkable to appoint the ISO to	As discussed above, there is insufficient information provided on the proposal to meaningfully comment on whether there are any matters that might have been regulated by a TUOS contract which could not be adequately regulated by the amended PNR/HTR, and ISO's potential role in managing these matters.

Consultation question	Horizon Power (HP) Pilbara Network's comments
manage them, rather than the NSP under an access contract?	
(3)(c) Splitting access in two (Option B) is being preferred over the NSP Co model (Option A). However, there is some convergence between the NSP Co model and two of the models discussed in section 2.2, namely the operational separation model (Figure 9, and part of section 2.2's Option A) and the 'sensitive decisions' model (Box 6, and section 2.2's Option B). There may be scope to combine elements of more than one model, to address the matters discussed in section 2.2 and this section 3.2. Do you have any observations on this?	The Consultation Paper already states that the NSP Co model is not supported. Despite that, it is repeatedly referred to. HP Pilbara Networks does not support operational separation for the following reasons: • there would be a significant cost impost with loss of economies of scale (as the proposal does not include Pilbara sub-transmission and distribution assets), which could impact the cost competitiveness of miners • it would require approval of the Portfolio Minister and Treasurer, and Horizon Power would need the powers to enter into an outsourcing arrangement with an Independent Transmission Operator • it would be more complex to negotiate new connections on the sub-transmission and HV distribution networks. As outlined in Box 6, it is proposed that the role of the ISO will need to expand to include additional functions. These functions include network functions as well as functions related to capacity adequacy and delivery of energy – it is not appropriate for these functions to be undertaken by NSP Co.
(3)(d) Early project proponents, please comment on the matters set out in proposal 3.2, or contact EPWA to discuss them further.	Not applicable
(3)(e) Existing NSPs, please comment on the matters set out in proposal 3.3, or contact EPWA to discuss them further.	This proposal is likely to fundamentally change the way in which tariffs are calculated. The tariffs for entry points are currently zero, but with this change, would need to change to ensure that all costs are recovered. Additionally, tariffs may increase or decrease depending on whether the TUOS charges that are allocated to HP Pilbara Networks increase or decrease relative to the existing costs. It may be difficult to vary tariffs with access contracts that are locked in for a long period of time.

Consultation question	Horizon Power (HP) Pilbara Network's comments
Proposal 4. Managing how interconnection agreements affect users' access contracts	
(4)(a) Are there any circumstances in which it is necessary for an NSP-NSP interconnection agreement to prescribe matters which result directly or indirectly in restrictions on network users' rights, which cannot be managed through the PNR or PNAC?	To date, NSP-NSP interconnection is assessed on a case-by-case basis, with the terms of interconnection agreements following the negotiate / arbitrate model. Theoretically, if NSP A imposes certain terms on NSP B, then NSP B may impose these on its users. The existence of an interconnection agreement as a pre-requisite for the use of an interconnection point for network services imposes restrictions on network users. For example, an NSP's service to users may rely on the interconnection being maintained. The loss of an interconnector may impact security of supply if the interconnector enables the n-1 planning standard to be met. If the access contract with the customer does not allow for the loss of the interconnector, this could impose significant costs on the NSP to maintain the n-1 planning standard with the loss of the interconnector. Services may not be able to be provided as per the access contract. This could potentially be managed under the PNR/PNAC.
(4)(b) Are there any disadvantages to requiring interconnection agreements to be made public? Do interconnection agreements include commercially sensitive matters that need to be kept confidential, and if so why?	Interconnection agreements may include network services terms and commercial matters, which are confidential. It would not be appropriate for the confidential information to be made publicly available. HP Pilbara Networks supports grandfathering protection for legacy contracts.
Proposal 5. Managing tariffs across multiple networks	
(5)(a) Stakeholder feedback and proposals are invited on these matters.	The arrangements for managing tariffs across multiple networks need to be determined sooner rather than later as they will be a key part of the revenue earned by NSPs. This proposal provides the NSPs with significant revenue and investment uncertainty (which is counter to the objective to 'attract substantial private investment in the new transmission lines') – the proposal may increase or decrease costs for an NSP. There is no certainty as to how any increase in costs incurred by an NSP would be recovered when a large proportion of revenue is secured through long term contracts.

Consultation question	Horizon Power (HP) Pilbara Network's comments
	HP Pilbara Networks opposes a central entity determining all costs and tariffs for all common use assets in the system, and apportioning them between NSPs. NSPs should maintain control of their revenue and tariffs to the extent they do not need system coordination. The NSPs could determine the target revenue for their shared transmission assets, with a central entity determining the equitable allocation of these costs across NSPs. The NSPs would then determine how the costs allocated to them through this process are recovered from their users. The equitable allocation of costs across NSPs would require an understanding of power flows across the system which implies that the ISO, with its additional functions, is best placed to do this. The PNAC currently does not provide the framework for ISO to undertake this function and for NSPs/users to dispute their allocation.
Better regulation for network tariffs	
Proposal 6. Expanded powers to seek pre-approval of tariff and non-tariff elements	
(6)(a) Do you support the proposed expansion of an NSP's pre-approval options?	HP Pilbara Networks supports providing NSPs with more pre-approval options which they can elect to choose or not choose, with the NSPs also having the option to elect to transfer to full regulation.
(6)(b) Is the list of proposed pre-approval topics appropriate? What would you add or delete?	The NSPs should have the ability to seek pre-approval on any topic, as they deem necessary.
(6)(c) Should the ERA's costs of pre-approval be recovered from all covered NSPs through the fee PNAC mechanism, or in some other way?	The ERA's costs of pre-approval on a particular matter should only be recovered from those NSPs seeking pre-approval on that matter. To ensure that the costs of the pre-approval process are efficient, the ERA should first be required to publish a notice that they have been requested to pre-approve a particular matter and invite other NSPs to also seek pre-approval on that same matter (although the details may vary).
(6)(d) Considering the matters discussed in section 6 of this paper, should any other form of prior	Since the commencement of coverage, there has been no evidence to suggest that any other form of prior accountability is required.

Consultation question	Horizon Power (HP) Pilbara Network's comments
accountability be considered in this context, in addition to or instead of ERA preapproval?	HP Pilbara Networks publishes a Contributions Policy in accordance with section 41 of the PNAC. In addition to the matters set out in the PNAC, it includes a policy on Rebates and Recoupment. To provide greater certainty to potential users, the PNAC could be amended to require all NSPs to include a policy on Rebates and Recoupment in their Contributions Policy.
(6)(e) What safeguards are needed to prevent pre-approvals having adverse unintended or unforeseen outcomes? Would it be appropriate for a pre-approved item on a PNAC-style regulation network to stand effectively in perpetuity, when a similar item on an ENAC-style regulation network would normally be re-examined at the next reset? If not, how might this be addressed without defeating the purpose of pre-approval? If there is to be a review, should it be periodic, or only on the occurrence of certain trigger events, or should this question have a flexible answer depending on the circumstances?	Flexibility is crucial in terms of the pre-approval process, noting that the PNAC will be used to produce a price list for reference services, which will be used as a starting point for price negotiations and arbitration. HP Pilbara Networks expects that most loads and generators seeking to connect to the new transmission lines will be looking for certainty to enter into long-term contracts. The pre-approval should stand for the period of these long-term contracts. Pre-approval may only be required again when the NSP is seeking to negotiate new contracts or to extend existing contracts. The pre-approval should not be applied to contracts during the term of that contract.
(6)(f) Would you support this extended pre-approval option being available for existing assets, or should it only be available for greenfields networks? If the latter, for how long after construction should this expanded pre-approval option be available?	There is no reason not to provide existing assets with the option to exercise the pre-approval options.
Proposal 7. Tariffs – Making provision for possible revenue control	
(7)(a) Please comment generally on the proposed reforms.	The proposed reforms do not take into account the specific circumstances of the Pilbara network. Revenue and price cap control mechanisms are features of full (ENAC style) regulation and run counter to light (PNAC style) regulation, which is applied in the Pilbara. The Pilbara network is dominated by a small number of large well-informed users on long-term negotiated contracts. The price list is used as the basis for negotiating tariffs with these users.

Consultation question	Horizon Power (HP) Pilbara Network's comments
	The tariffs are negotiated for a period of time that spans multiple pricing periods, with tariffs that are flat in real or nominal terms to provide certainty to users. For a new transmission investment, the application of the building blocks approach will produce reference tariffs that decline over time as the asset is depreciated. The tariffs that are negotiated with users will generally have a different profile to the "target revenue" – as indicated above, the tariffs will generally be consistent over the life of the contract, either in real or nominal terms. Accordingly, the revenue earned will be less than the "target revenue" in the early years of the contract and higher than the "target revenue" in the later years of the contract. A form of revenue control is inconsistent with this approach – it would require the long-term contracts to be-reopened. To account for the potential over capacity of new transmission investment initially, the PNAC already provides for a "deferral of a substantial proportion of the depreciation"[1]. When negotiating tariffs, there are countervailing incentives – the NSP will need to forecast the future demand on the transmission infrastructure. If the future demand is forecast on the low side, then the tariffs will be higher than they otherwise would be and the potential new user will look at alternative options or commence an access dispute. If the future demand is forecast on the high side, then the tariffs will be lower than they otherwise would be and the NSP may not be able to finance the investment. Ultimately, the NSP must exercise its judgment in forecasting the demand when setting tariffs and can choose to include provisions in the access contract that enable the tariffs to be increased or decreased if later information indicates that the initial demand forecast was too high or too low. If this is the case, the NSP is more likely to err in forecasting on the low side and decrease tariffs over time. Network tariffs in the Pilbara are based on demand rather than energy consumption (as they are elsewhere) – they are generally based on contracted maximum demand and, for smaller customers, on metered demand. For given loads and generators, the demand does not vary as

[1] PNAC, section 59(3).

Consultation question	Horizon Power (HP) Pilbara Network's comments
	much as energy consumption. However, demand will fluctuate as large new loads and generators connect to the network. The PNAC already provides for the target revenue to be adjusted during a pricing period for "significant changes in loads on the light regulation network", resulting in an updated price list.
(7)(b) Should revenue control apply automatically to all networks, or only if a network opts in or certain trigger events occur? If the latter, what might be suitable trigger events?	A revenue control is only relevant where the revenue is earned through the reference tariffs or where tariffs are negotiated for the duration of the pricing period. This is generally not the case for users in the Pilbara networks.
(7)(c) Who should administer any revenue control – the ERA or an arbitrator?	An administrator for a revenue control mechanism is not applicable, as a revenue control is not fit for purpose for the Pilbara networks.
Proposal 8. Managing tariffs for future-ready capacity	
(8)(a) Stakeholder feedback is invited on this matter.	As indicated above, to account for the potential over capacity of new transmission investment initially, the PNAC already provides for a "deferral of a substantial proportion of the depreciation"[2]
Better regulation for terms and conditions	
Proposal 9. Model access terms and conditions	
(9)(a) Please comment on the above proposed reforms.	HP Pilbara Networks believes that the status quo in relation to the model access terms and conditions should be maintained on the basis that: • Since the commencement of coverage, no issues have been experienced with the current arrangements. The PNAC already requires NSPs to prepare a set of model terms and conditions for access contracts, and to undertake the 'standard consultation process' before publishing them. • The current model terms and conditions published by Horizon Power and APA are

[2] PNAC, section 59(3).

Consultation question	Horizon Power (HP) Pilbara Network's comments
	similar to those in the ENAC, and provide a precedent that can be used by other NSPs. • The current negotiate / arbitrate model allows parties to agree on terms that are specific to their project and solution, noting that most contracts are the standard model contract or are highly bespoke. Those users negotiating highly bespoke contracts are sophisticated parties, well versed in negotiating contract terms. If they are unhappy with the negotiation process, they may lodge an access dispute.
Proposal 10. Dealing with foundation user requirements	
(10)(a) Stakeholder feedback and proposals are invited on these matters.	The (expanded) ISO (which may be AEMO) should be consulted on the foundation user and other contractual rights which have the effect of preventing or hindering access by others to ensure they can be delivered and do not impinge on the reliability and security of the network, and to assess whether the extent to which they may impinge on the rights of other users is reasonable. However, transparency on foundation terms and conditions needs to be balanced against confidentiality. As discussed previously, section 41 of the PNAC should be amended to require all NSPs to include a policy on Rebates and Recoupment in their Contributions Policy.

Consultation question	Horizon Power (HP) Pilbara Network's comments
Other improvements to access regulation	
Proposal 11. Improved accountability	
(11)(a) Will the PNAC benefit if these lower-threshold accountability measures are added, to supplement arbitration as a last resort?	The Pilbara network is characterised by large well-informed counterparties to negotiate with the NSP. While the Consultation Paper focuses on the time and effort for arbitration should there be an access dispute, there is also considerable time and effort to negotiate an access contract, particularly if it is highly bespoke. There are incentives on both parties to negotiate a mutually agreed outcome – the NSP to finance the investments in the transmission system and the user to be able to connect to the network. An access seeker would only choose to build its own infrastructure if it was cheaper to do so, which would threaten the viability of the transmission investment and not be in the NSP's interests. An access seeker would not accept the NSP's numbers or terms whether it agrees with them or not as it has the option to build its own infrastructure or consider alternatives. The problems with the PNAC, as identified in the Consultation Paper, are problems that would be experienced by smaller, less informed users than those in the Pilbara. Stakeholders are generally not engaged in the consultation process required under the PNAC, and there has not even been a threat of an access dispute to indicate there is an issue. Accordingly, HP Pilbara Networks is of the view that lower-threshold accountability measures are not required to supplement arbitration at this time. However, if they are applied, they should be prospective only and not impact existing contractual arrangements.

Consultation question	Horizon Power (HP) Pilbara Network's comments
(11)(b) Please comment on the possible measures under consideration. What other such measures have you seen work effectively?	HP Pilbara Networks does not support any of the measures that are currently under consideration. All of the options will add costs to the regime, and more detail is required on each option to provide a more informed response. For example: • Option A (civil penalty and other enforcement regime) – need a better understanding of where civil penalties may be applied and the magnitude of civil penalties that will apply. • Option B (rapid expert determination) – it is proposed that a rapid expert determination should be binding, but different experts can have a range of views. Accordingly, the proposal should not be binding; rather it should be able to be considered as part of an access dispute. Who pays for the expert determination? • Option C (published advisory opinions) – there are already plenty of precedents available and, as per above, experts can have a range of views. Who obtains the advice and who pays for it? • Option D (trigger to activate full regulation) – what would be the triggers? If the parties cannot agree, there is an incentive for the NSP to opt-in to full regulation or for the access seeker to apply to the Minister for the network to be subject to full regulation. If more flexible accountability measures are introduced and HP Pilbara Networks finds the regime unworkable, it will opt-in to full regulation.
(11)(c) For matters that make it to arbitration, do you consider the PNAC's current arbitration regime to be fit for purpose? How might it be improved?	As indicated in the Consultation Paper, there have been a lack of access disputes. Accordingly, there is no evidence to indicate that the current regime is not fit for purpose, that is, there is no evidence that flexible accountability measures are required.
(11)(d) Do you agree that no special transition for early projects or legacy arrangements for existing projects are required?	Any changes should only be applied prospectively and should not impact existing contractual arrangements.
Proposal 12. A transitional "fixed principles" mechanism	
(12)(a) Feedback on this concept is welcome.	It is difficult to comment on the concept without any understanding of the types of principles

Consultation question	Horizon Power (HP) Pilbara Network's comments
	that would be captured as "fixed principles" and the impacts they would have on all other participants (such as the ISO, other NSPs, and users). However, consistent with the comments above, the (expanded) ISO (which may be AEMO) should be consulted on any 'fixed principles' to ensure they can be delivered and do not impinge on the reliability and security of the network, and to assess whether the extent to which they may impinge on the rights of other users is reasonable.

Evolution of the Pilbara Networks Rules

Horizon Power Generation and Other Business submission

Table 1: Energy Policy WA's (EPWA) proposals to evolve the Pilbara Network Rules (PNR) and Horizon Power Generation and other Business comments

EPWA Proposal	Rationale	HP Generation & Other Business Comments (HP Gen & OB)
Power System Security and Reliability		
Proposal 1: Long term planning 1.1 The ISO will have effective information- gathering powers for all networks in the Pilbara, whether connected to the NWIS or not. Requested information will relate to plans to connect to the NWIS during the planning horizon. 1.2 Every two years, the ISO will prepare an integrated plan for the NWIS (the Pilbara System Plan (PSP)), including potential interconnections and new	The size and location of transmission, generation, and loads are critical factors in maintaining system reliability as the system decarbonises. Evolving long-term planning arrangements will assist stakeholders, including potential investors, to efficiently scope their developments. Enabling the ISO to gather information outside the NWIS means the planning process can better account for potential new connections of both existing infrastructure and new developments.	HP Gen & OB supports the proposal to prepare and publish an Integrated System Plan (**ISP**). This report is essential for effective coordination and planning within the North West Interconnected System (NWIS). Key Points regarding the current approach: 1. **Transmission Development Plan**: o HP Gen & OB acknowledges that this plan, similar to those in other jurisdictions, focuses on bulk transmission to address generation and its constraints. o It is not designed to resolve specific load area constraints due to load growth, which falls under the NSP's responsibilities.

supply and demand sources. 1.3 The ISO will consult on the assumptions and methodologies to be used in preparing the PSP. 1.4 Input and output data for the PSP will be published for transparency, with commercial sensitivity respected. 1.5 In years where an updated PSP is not published, the ISO will prepare a generation statement of opportunities including updated demand and capacity forecasts, considering network constraints.		2. **Pilbara Generation Statement of Opportunity (GenSOO)**: ○ HP Gen & OB supports the identification of potential investment opportunities for renewables and storage. ○ The projections of generation fuel availability, fuel sources, and intermittent energy developments are essential for strategic planning. ○ The report on ESS procured and the assessment of system capacity adequacy ensure the reliability and resilience of the system. HP Gen & OB believes that these reports provide a solid foundation for maintaining system reliability and supporting the transition to a decarbonised energy system. Support of the development of an ISP is on the proviso that key elements of the TDP and GenSOO will be retained and expanded on to other areas in the Pilbara.
Proposal 2: Network reliability standard 2.1 The default network planning and operation standard for the NWIS will be n-1.	In a power system dominated by renewables, connected parties become more dependent on each other's operations. Having a consistent planning and operation standard means that all parties know what to expect.	**HP Gen & OB as a Contestable Generator** Some of Horizon Power's existing network elements operates at a N-0 standard (i.e 220kV line between Karratha Terminal and South Hedland Terminal). If the most efficient solution is

2.2 Parts of the network can be planned and operated to a higher or a lower standard, with the agreement of affected parties. 2.3 NSPs can use alternative, non-network solutions to achieve an n-1 standard.	Traditional network investments will not be the most efficient way to achieve the standard in all circumstances.	a non-network solution (i.e. starting additional generator units), the generator should be contracted and compensated for incremental generation costs for the purposes of network planned maintenance or network security. These incremental generation cost should be considered in the network's costing model. In addition, refer to HP Gen & OB's feedback under Proposal 8.
Proposal 3: Capacity forecasting 3.1 The ISO will forecast capacity requirements for the NWIS, based on avoiding unserved energy in the event of expected one-in-ten- year peak demand and low renewable output, including a reserve margin to account for expected supply outages.	Having the ISO carry out system-wide forecasting ensures that there is clear responsibility for monitoring system conditions and potential capacity shortfalls. Providing transparency of forecasts and forecast methodologies increases confidence to current and prospective connected parties.	**Feedback related to Proposals 3 to 6** Support proposal for capacity forecasting by the ISO. Key points: **Capacity obligations:** HP will need to secure enough capacity certificates to meet demand and reserve margin requirements. Accurate forecasting and procurement will be required. **Balancing market participation**: Effective asset management will be required as the cheapest price are winners in supplying the capacity. **Cost recovery**: Without sufficient capacity, or capacity certificates, HP could incur additional
Proposal 4: Individual capacity requirements 4.1 The ISO will set the method for participants to calculate their required contribution to the capacity requirement.	Having a formal, structured approach to capacity assessment ensures that all parties are clear on their needs, and those needs are determined in a consistent way. The rise of flexible demand (where consumption follows available generation, rather than the other way around) has the potential to significantly offset the volatility of wind and	

4.2 Participants can nominate part of their demand as non-firm, to be excluded from the firm capacity requirement. 4.3 Participants do not have to account for consumption served by co-located generation. 4.4 Participants will be required to have sufficient capacity to meet their capacity requirement. 4.5 The final NWIS capacity target will be the sum of individual participant requirements.	solar output. If it were not accounted for, capacity targets would be overestimated.	costs. This incentivises accurate forecasting and early procurement of supply to HP customers. **Risk management**: Risks associated with decarbonisation (renewables) will likely require investment in storage/firming generation and/or procurement from other sources. **Market dynamics**: Pay as cleared pricing mechanisms will impact bidding strategies to participate. With the introduction of generation adequacy, HP's generation planning will need to adapt to include accurate forecasting and an early procurement process to manage the new obligations. This means: 1. **Accurate Forecasting**: Ensuring precise demand and capacity forecasts to meet the generation adequacy requirements. Very few major customers are contractually obliged to provide forecasts. This obligation will need to be enforced over time as old contracts expire. 2. **Early Procurement**: Securing capacity well in advance to cover forecasted needs and reserve margins, participating in the ISO's competitive tender process.
Proposal 5: Capacity certification 5.1 A participant can self-certify the capacity contribution of its own facilities if: • energy from the facility will be used to serve its own consumption; and • this supply will not be affected by network constraints.	Central certification provides a reliable and transparent approach for parties who rely on others to supply capacity and energy. There will be large volumes of self-supplied load in the Pilbara. Generation and consumption that does not use the network does not need to be accounted for in capacity planning. Capacity certification methods for firm generation and storage are standard around the world. Using a probabilistic method for variable generation will allow the correlation of renewable facilities to be accounted for, as well	

5.2 If a participant does not include consumption served by co-located generation in its capacity target, the co-located facilities cannot have a certified capacity contribution. 5.3 The ISO will certify all other capacity: • Firm generation will be certified according to maximum output under peak demand conditions, supported by test results. • Variable generation will be certified by a probabilistic method that accounts for the variability and the correlation with other variable generation. • Storage will be certified by linear deration.	as the weather dependent correlation between renewable output and load.	3. **Managing Obligations**: Balancing the need for reliable capacity with cost-effective procurement strategies to meet both operational and financial goals. This shift will require HP to enhance its planning processes to align with the new standards and ensure compliance with generation adequacy requirements. Any change associated with forecasting, backup capacity requirements and network reliability standards is likely to have cost implications that will be passed on to major retail accounts. The ISO should be mindful of this cost impact and be able to demonstrate that it is efficient and represents value for money customers. This is especially important for risk based contingency criteria where the benefit to customers is not always immediately obvious to them.
Proposal 6: Backup capacity procurement 6.1 If participants do not present evidence of sufficient capacity to meet their individual requirements for a particular year (including a	Having a backstop mechanism to procure capacity provides confidence to current and prospective participants that the NWIS will continue to provide reliable supply in all reasonably expected circumstances.	

reserve margin), the ISO will seek to procure additional capacity to meet the shortfall in that year. 6.2 Submissions will specify a $/MW capacity price and a maximum $/MWh balancing energy price. 6.3 The ISO will select submissions based on the lowest overall cost considering capacity payments and expected energy payments and will pay all selected providers at the highest capacity price (pay as cleared) that fills the shortfall. 6.4 The costs of capacity procured by the ISO will be allocated to the participants with individual shortfalls. 6.5 Selected providers must offer energy in the balancing mechanism, with the energy price limited to the maximum price in the capacity submission.	A simple approach to capacity procurement, with costs allocated only to those who have a capacity shortfall, provides clear incentives for all parties.	
Proposal 7: ESS framework 7.1 The two existing essential system	These changes to ESS are consistent with the approaches used around the world to support the energy transition. A new load rejection	a) EPWA's proposed ESS framework is supported by HP Gen & OB.

services (ESS) will be retained. 7.2 The existing "FCESS" service will be renamed "Regulation" 7.3 The existing "SRESS" service will be renamed "Contingency Reserve Raise". 7.4 When energy storage penetration increases, a new Contingency Reserve Lower service will be introduced to manage unplanned loss of load. 7.5 Power system security will be managed by defined ESS requirements rather than by a minimum synchronous generation requirement. 7.6 Power system studies will be conducted to assess Rate of Change of Frequency (RoCoF) ride-through capability of generators and other connected equipment, to determine the need for additional services such as inertia. 7.7 The ISO will move to dynamic ESS requirements, with the ability to set different requirements at different	reserve service (Contingency Reserve Lower) will support the connection of large storage facilities. The need for an inertia service depends on the ride-through capability of existing generation and load equipment, which is not clear at this time. Moving to more dynamic ESS requirements in the future would allow the ISO to target services to when and where they are needed, which will be more cost effective than a static requirement for all times and locations. Effective delivery of ESS requires a party to assess facility capabilities, monitor compliance, and act when performance does not match the requirement. The limited number of facilities capable of providing ESS in the current Pilbara fleet is not sufficient to support procurement through a dynamic mechanism or closer to real time so, at this stage, it is efficient to continue to procure ESS via competitively procured, direct contracts until the depth of this capability increases.	b) Although HP Gen & OB agrees with the imperative to prioritise system security and to avoid an over-emphasis on collaboration, the requirement for parties to work collaboratively and communicate openly should form part of any future amendments to the PNR. c) The provision of an alternative mechanism for decision making in the PNR should not discourage proponents from collaborating and attempting to mutually agree solutions as a precursor to matters being brought before ISO for resolution or finalisation. Failing to adopt a collaborative approach initially may result in an overabundance of matters being brought before ISO, congesting and slowing down the process.

times of day, different times of year, and for different system conditions. 7.8 The ISO may set locational ESS requirements for pre- and post-contingency management of the power system, with payment mechanisms aligned with system- wide arrangements. 7.9 The ISO will establish an ESS accreditation framework, and monitor compliance with standards for ESS provision. 7.10 ESS will continue to be procured and provided under contracts, i.e., not through a dynamic mechanism.		
Proposal 8: ESS cost recovery 8.1 ESS costs will be recovered from causers where practical, on a trading interval basis. 8.2 Regulation costs will be allocated to participants who vary their generation or load from their balancing positions.	The proposed methods allocate ESS costs to those who cause the need for the service. Causer pays cost allocation provides incentive to reduce the quantity of ESS required, providing downward pressure on total system costs. Allowing participants to avoid contributing to ESS costs if they do not cause a service requirement ensures that connected parties	a) HP Gen & OB supports EPWA's preference for causer-pays approaches for ESS cost recovery. b) In general, HP Gen & OB supports system security. The ESS regime must make adequate provisions for generators to be compensated when incurring incremental generation costs (especially as a direct result of other NSP planned outages). Furthermore, HP Gen & OB

8.3 Contingency reserve raise costs will be allocated to supply facilities based on their output in each interval, according to the runway method. 8.4 Contingency reserve lower costs will be allocated to a load based on their demand in each interval, according to the runway method. 8.5 Facilities will be exempt from Contingency Reserve Raise costs if they provide evidence that a facility trip would be automatically offset by load curtailment by the same participant.	have the option to manage their own operations if they consider this to be more efficient.	requests that generators be compensated when the ISO Control Desk requests additional generator units to be kept online (i.e. where the ISO Control Desk moves away from HP Gen & OB's proposed economical dispatch) for network security purposes other than meeting HP Gen & OB's retail load c) Horizon Power's network is wedged between two other NSP networks. Any upgrades or maintenance on Horizon Power's transmission backbone network benefits the other NSPs connected to Horizon Power's network. d) Due to the geographic location of Horizon Power's generation assets and Horizon Power's network, HP Gen & OB incurs frequent network constraint notices resulting in inefficient generation dispatch. Under certain circumstances, upgrades and maintenance on the other NSP networks can impact HP Gen & OB's generation efficiencies because of the split in generation facilities between Karratha and Port Hedland. It is unreasonable for HP Gen & OB to bear these costs, particularly in relation to planned projects from other NSPs. e) Sharing of ESS costs should be the largest generator/combination of generators or line contingency. This would be a much fairer

		distribution of ESS costs as a line should be shared across all the NSPs. f) HP Gen & OB requests that it is treated as a 'contestable generator' and is compensated for all machine start-up requests coming from other NSPs and the ISO Control Desk for network security purposes. g) Under clause 8.5.11 of Subchapter 8.3 of the PNR, Rule 229 (Spinning Reserve) defines the "Reference Unit" as the unit with the largest operational capacity which is capable of forming a contingency outage. HP Gen & OB considers that, the capacity of the generation unit is not the most appropriate method of allocating costs for SRESS and, the method should have regard to the actual load on the unit, in addition to the unit's capacity. HP Gen & OB considers that the ISO should investigate a dynamic solution to the SRESS cost allocation model, rather than simply using the capacity of the unit as the means of allocation. h) HP Gen & OB's view is that for Supplementary SRESS, the runway model should consider the capacity of the machine that is providing Supplementary SRESS and not the standard primary SRESS cost allocation percentages. For example: if Supplementary SRESS is required to start a Karratha unit, the runway

		model cost allocation for Supplementary SRESS should use the Karratha machine capacity as it is required for that zone only to mitigate the risk. i) To exclude a facility from the runway allocation, the ISO would need to be satisfied that it need not provision reserve for that facility i.e. the participant must have an automated mechanism in place to automatically shed load if the facility trips.
Proposal 9: System strength 9.1 The HTR will provide guidance on the setting of the minimum and maximum fault levels on the NWIS. 9.2 The ISO will approve system strength requirements for different parts of the network. 9.3 NSPs will support the ISO to determine the system strength requirements for locations on their networks.	System strength requirements differ across locations, but impact the power system as a whole, so it is reasonable for the ISO to work with NSPs to determine the appropriate levels for different parts of each NSP network. If there are conflicts between settings in different locations, the ISO is the obvious party to resolve the inconsistency.	HP Gen & OB supports proposal 9.
Proposal 10: Outage planning 10.1 The ISO will manage a centralised	A common outage planning, and publication process is key to transparency, and to manage	**Feedback related to Proposals 10 and 11**

outage planning process. 10.2 All registered facilities on an outage planning list will be required to participate. 10.3 The outage planning list will be published from time to time by the ISO and will contain the facilities of which outages have the potential to materially impact PSSR. 10.4 Network and supply facilities will submit outage plans to the ISO. 10.5 Outages of unregistered facilities or those not on the outage planning list must be notified to the ISO, but do not require approval. 10.6 Outage requestors must consult with affected parties before submitting outage requests to the ISO. 10.7 If a network outage would affect power system reliability the network operator must include a plan to mitigate the reliability impact. 10.8 The ISO must develop an outage assessment procedure containing a	an increasingly interdependent power system in which parties rely on each other to maintain security and reliability. Maintaining self-scheduling for outages that do not affect other parties maximises flexibility for vertically integrated portfolios. ISO consulted on this topic during its review of subchapters 7.3 and 7.4 of the PNR from July to October 2024[1].	a) The proposed outage management process presents a relatively formal and thorough outage management process which will assist with better planning activities in the broader scheme of the network. However, such an approach is likely to result in longer approval times for planned outages and may provide less flexibility to adjust for unforeseen issues which develop during the planned outage. b) Planned outages cancelled at the last minute will cause generators and Network Services Providers (**NSPs**) to incur additional costs, especially when resources were already deployed to site. HP Gen & OB supports EPWA's proposal for a mechanism to be included in the PNR to compensate generators and NSPs for such costs. c) The process outlined in Section 7.3 of the ISO's Draft Decision for consultation paper would require the proponent of an outage to notify impacted participants at least 3 months prior to the outage and to take their views into account when developing the outage proposal and associated outage management plan. Whilst this may be sufficient for participants more generally impacted by a planned outage, it does not afford sufficient protection to impacted

10.9 risk-based outage assessment framework, in consultation with connected parties. 10.10 The ISO must assess outages according to the assessment framework and must approve outages unless doing so would have a material impact on PSSR.		participants who are required to actively participate in mitigating the impacts of the outage through machine starts and other mechanisms. The PNR and procedures should: (1) provide clearer rights for impacted participants to agree (or in certain circumstances, refuse) the proposal relating to an outage; and (2) clarify whether impacted participants are only to be notified and consulted prior to the outage at a broad level or provided with copies of the outage proposal and outage management plan and be given an opportunity to comment on these documents (with the later approach being supported by Horizon Power). d) The ISO intends to be empowered to direct other participants to take measures to mitigate notifiable events. Whilst HP Gen & OB supports this proposal, any participants to be so directed should be involved in planning their participation in the outage process more thoroughly and should be given a clear understanding of the remuneration they will receive for their participation.
Proposal 11: Outage plan timing 11.1 Outage plans must be submitted as soon as practicable, and no later than a year in advance. 11.2 The ISO must assess and approve or reject an outage plan within two weeks of its receipt. 11.3 Outage plans may be updated after submission, as long as the outage window is maintained. To extend the outage window, a new submission must be made. 11.4 The ISO can only withdraw approval for a previously approved outage plan if there is a risk to power system security	Clear timeframes for outage information provision and approval are necessary for effective operation of the outage management process. Sometimes, short notice changes will be unavoidable. If these occur to maintain system security for everyone, it is reasonable to compensate affected parties for the costs of the change. ISO consulted on this topic during its review of subchapters 7.3 and 7.4 of the PNR from July to October 2024. Cancellation compensation is included in the proposal in response to submissions on that consultation.	

or reliability and must inform the requestor as soon as practicable. 11.5 If the ISO withdraws approval within a week of the scheduled start time or recalls an outage, the requestor can request compensation for costs incurred in relation to the cancellation or recall.		e) The PNR and procedures should make it clear when a proponent is being directed to start a machine pursuant to an outage management plan and when they are being directed to do so under a contract for ESS services as part of the ESS mechanism.
Scheduling and Dispatch		
Proposal 12: Balancing mechanism 12.1 The ISO will operate day-ahead trading mechanism in which participants can trade energy around their bilateral positions in half hour increments. 12.2 Participants must nominate: • planned consumption by portfolio loads; • planned supply by portfolio generation and storage, including contracted supply from other parties; and • expected dispatch order for facilities in their portfolio nominations must	Centrally coordinated trading and balancing arrangements provide tools for participants and the ISO to manage increasing generation volatility, reducing the need for each participant to build flexible capacity to smooth the volatility of its renewable generation portfolio. It will simplify complex multi-party nominations and allow more responsive and cost- efficient dispatch closer to real-time. Separate trading and balancing arrangements are proposed because feedback from stakeholders indicates that current operational practices require significant lead time for most parties, meaning a day ahead trading mechanism is preferred initially. A separate but related balancing mechanism is included	**HP Gen & OB as Contestable Generator** a) The changes proposed by EPWA are extensive. Participants are not obliged to offer balancing services. A participant who just wanted to manage its own output would nominate its contract position, then manage its operations to maintain that position. There may be future financial benefit opportunities for Horizon Power by using the headroom of existing online generator units for centralised balancing services. b) The ISO's proposal is for balancing positions and prices to be determined via a day-ahead trading mechanism and the number of connection points are expected to increase. This is a much more dynamic environment compared to the current EBAS regime and is

balance. 12.3 Participants may choose to offer to deviate from their initial position, by making $/MWh bids (to sell energy) and offers (to buy energy). 12.4 The ISO will clear the day-ahead trading mechanism. 12.5 Trading positions and prices will be determined a day ahead of real time. 12.6 Traded energy will be settled at the marginal clearing price at the point supply offers and demand bids intersect. 12.7 Participants can nominate specific facilities to provide balancing energy. 12.8 Participants from whom the ISO has procured backup capacity must provide balancing offers for the contracted facilities. 12.9 During the trading day, the ISO will designate and dispatch balancing facilities according to their bids and offers.	because there can still be significant changes to load and variable generation and using only ESS to keep the system within limits would require significantly higher volumes and costs. Operating on a portfolio basis allows participants to continue to manage their own generation, and requiring a portfolio merit order allows the ISO to account for network congestion in its dispatch process. Including penalty factors provides another incentive for participants to stick to their balanced positions.	expected to have a material impact on Energy & Analytics' current nomination processes and procedures. These are high level concepts proposed by EPWA and the full extent of the impact is not known at this stage. As more details and clarifications become available, it may require a dedicated change manager and the required technology to coordinate and implement the required changes as it may impact other parts of Horizon Power's business as well.

12.10 The ISO will determine a balancing price for compensating the balancing facilities based on the marginal price of the last facility dispatched. 12.11 Balancing energy will be settled at: • for additional energy dispatched from balancing facilities, the balancing price; and • for uninstructed imbalances (from • trading outcomes) outside a small tolerance range, the balancing price multiplied by a penalty factor. Penalty factors will be different for positive and negative imbalances.		
Proposal 13: Metering 13.1 Content and timing requirements for meter data submissions will be moved from the Energy Balancing and Settlement Procedure to the PNR. 13.2 Meter data format specifications will remain in the Energy Balancing and	Meter data submission is part of the settlement process. It is appropriate for definitions, timeframes and high-level process steps to be included in the rules, rather than in a delegated instrument. This provides for clarity and certainty for participants and data providers.	N/A. Proposal 13 is expected to have no impact on HP Generation and Other Business.

Settlement procedure.		
Proposal 14: Manual load shedding plan 14.1 Participants must use best endeavours to manage their portfolios to balance their consumption and supply according to the trading and balancing mechanism provisions. 14.2 The ISO must seek to maintain the power system in a secure operating state at all times, including using powers of direction to avoid involuntary load shedding. 14.3 If the ISO forecasts a real-time supply shortfall, it must notify participants of the forecast time of the shortfall, and the quantity of expected unserved load. 14.4 The ISO must develop a manual load shedding priority list, identifying the order in which network elements and load will be disconnected in the case of a forecast energy shortfall. 14.5 In preparing the priority list, the ISO	A pre-existing plan means participants have a shared understanding of what will happen in the event of a supply shortfall.	As the ISO develops its manual load shedding priority list, it needs to be mindful that large retail customers are not (currently) incentivised to shed loads during supply shortfalls. It is possible to negotiate this outcome, but this will require an incentive payment structure that can only be implemented over time as existing contracts expire. All other feedback will be provided by Horizon Power's System Operations Business & Pilbara Networks.

must: • If possible, ensure that consumption relating to contracted energy volumes and contracted capacity volumes is disconnected later than consumption not associated with contracted capacity. • Ensure that consumption by foundation users of transmission network elements is prioritised ahead of others when network congestion is the cause of the shortfall. • Take account of network equipment serving both load and generation. • Attempt to achieve an equitable distribution and rotation of load disconnection across participants in proportion to their consumption. • Consult with NSPs and other connected parties to ensure the priority list is practical. 14.6 If load shedding is required, the ISO		

must endeavour to follow the load shedding priority list.		
Governance of ISO		
Proposal 15: ISO functions 15.1 Over time, the remit of the ISO will expand to cover additional functions. 15.2 The ISO will take control room functions inhouse by January 2027.	Independent performance of a wider range of functions is critical to support third party access and investment. Current arrangements restrict the ability of the control desk to access information about power system operations. Moving the control desk inside the ISO will reduce some of the competition concerns and allow the ISO to perform its core function.	HP Gen & OB supports EPWA's proposal for ISO control room functions to become inhouse. Under the current state with the ISO control desk function provided by HPCC, HP Gen & OB finds it increasingly difficult and confusing to discuss matters with HPCC related to HP's network issues impacting HP Generation. This is due to ringfencing requirements causing uncertainty amongst HPCC staff related to what can be discussed. HP Gen & OB notes this preference will increase the ISO's operational costs.
Proposal 16: ISO board 16.1 The ISO board will continue to have five members, including a Chairperson and the Pilbara ISO Chief Executive Officer (CEO, Managing Director). 16.2 ISO directors must be independent of participants. 16.3 Directors (except for the CEO, who is appointed by the board) will be appointed by the Minister for Energy.	An independent ISO is critical to support third party access and investment. Current arrangements require exemption from the ACCC to comply with competition law. Current ISO fee allocation is consistent with NSP board representation and control, but the proposed fee allocations (see proposal 18) are not	**HP Gen & OB as a Contestable Generator** a) HP Gen & OB's preference is retaining Horizon Power representative/s on the ISO Board instead of independent board members due to the benefit Horizon Power's business knowledge and representing Horizon Power's interest at the ISO Board level. b) Horizon Power is currently being represented by the Senior Manager Pilbara Network on the ISO Board. Because of ringfencing requirements, HP Gen & OB has a concern that this arrangement does not adequately

16.4 To be appointed, any new Director must meet selection criteria, including any requisite skill requirements. 16.5 Directors will be appointed for staggered three-year terms, with eligibility for reappointment twice. 16.6 ISO cost recovery should be amended at the same time as board composition changes.		represent HP Gen & OB's business interest at the ISO Board. HP Gen & OB proposes that Horizon Power's ISO Board member should be someone that is not subject to ringfencing requirements or appoint an additional Horizon Power ISO Board member to represent Horizon power's HP Gen & OB business interest. c) HP Gen & OB notes that the ISO's proposal may increase the ISO's operational cost which will ultimately be recovered from the NSPs and its customers. From new customers' perspective, the price developed by Business Development are based on the customer's specific requirements and point of connection, therefore any increase in operational costs will be passed through to the customer.
Proposal 17: ISO budget 17.1 The ISO board must consult on a draft budget. 17.2 The ISO board will set the ISO budget annually. 17.3 The ISO budget will be subject to	To safeguard efficiency of, and fair allocation to, ISO operations, the ISO budget needs to be subject to review and approval by a third party.	This proposal is linked to the change in ISO Board composition, increase in ISO functions and costs, as well as change in ISO fee allocation. HP Gen & OB's preference is to retain NSP ISO Board membership to provide assurance that those approving the ISO budget has consideration for the cost impact to the networks themselves and their customer base. Should this not be the case, having an independent entity, such as the ERA,

review and approval by the ERA.		approve the budgets is preferred compared to the ISO itself with a completely independent Board. Supports the use of the ERA (or another such independent body) reviewing and approving the budget to ensure budgeted expenditure is efficient, effective and incurred with regard to delivering benefits to customers. This last point applies to any cost impact from changing Board positions, budgeting processes, ISO resourcing (of the control desk), compliance enforcement obligations or any other changes recommended in this report: the impact of longer time frames and/or higher costs needs to deliver proportional benefits to customers. Ideally, these benefits should be quantified.
Proposal 18: ISO fees 18.1 ISO costs will be recovered from participants based on gross injection and withdrawal figures into and from the NWIS. 18.2 The fee (in $/MWh) will be determined annually. 18.3 Fees will be recovered in each settlement period.	ISO costs should be borne by all parties who use the power system. As new parties connect, current cost allocation methods will become increasingly unfair. This proposal brings the recovery of fees in the NWIS in line with other networks.	HP Gen & OB supports EPWA's proposal for ISO's costs to be borne by all parties who use the power system. It is unclear whether it also includes major customers and what avenue the ISO will use to recover the costs from all parties. The ISO's proposal may result in additional invoice processing and administrative burden on NSPS and generators.

18.4 The approach to ISO cost recovery will be changed at the same time as the board composition is changed.		
Proposal 19: Confidential Information 19.1 Information will be public unless there is a compelling reason for it to remain confidential. 19.2 Public information will include outage schedules, demand forecasts, generation schedules, capacity figures (both supply and demand) and balancing quantities. 19.3 The PNR will designate certain information as confidential (for example terms, conditions, and prices in bilateral contracts). 19.4 Disclosers can request that information provided to the ISO be treated as confidential and provide supporting reasoning. The ISO must determine whether the information meets the PNR specified criteria for being confidential, in accordance with an ISO procedure.	Transparent access to information is key to efficient operations. If participants have access to data on the power system, they can better plan their operational strategies. Transparency measures should apply to all parties equally to provide a level playing field. Requiring NSPs to share operational data with the ISO enables the ISO to effectively operate the power system and maintain PSSR. Transparency improves the perception of independence of the ISO. Confidential information should be protected in appropriate circumstances.	Due to competition in the NWIS, EPWA needs to ensure commercially sensitive information is kept confidential and prevent competing parties from back calculating commercial cost related information. HP Generation notes that it may cause difficulties to verify invoices to the last dollar.

19.5 Disputes about classification of information will be resolved by the Coordinator of Energy.		
Proposal 20: Compliance monitoring 20.1 The ISO will monitor participant compliance with the PNR, including the HTR. 20.2 Initial focus areas for ISO monitoring will be portfolio balancing, dispatch compliance, and ESS performance. 20.3 The ISO will publish quarterly compliance reports on the activities it monitors. 20.4 The ERA will continue to monitor behaviour, with additional focus required from the start of the balancing mechanism.	As the Pilbara networks move towards more integrated arrangements, connected parties need to be able to rely on each other's compliance with the PNR, including the HTR. The PNR must include a framework for monitoring and reporting on compliance of connected parties.	**Feedback related to Proposals 20 and 21** In general, HP Gen & OB is supportive of increased enforcement.
Proposal 21: Compliance enforcement 21.1 The ISO will be able to issue formal warnings and requests for non-compliant parties to return to	The proposed suite of remedies for non-compliance will allow more effective enforcement of compliance with the PNRs, in line with other networks, which will assist the	

compliant operation. 21.2 The ISO will be able to refer non-compliance to the ERA for investigation. 21.3 The ERA will be able to levy monetary penalties (civil penalties) for non-compliance with civil penalty provisions, to be prescribed by the relevant Regulations. 21.4 The ERA will have power to restrict participation in the trading mechanism for participants who persistently fail to meet their traded energy quantities. Participant energy will still be settled in balancing. 21.5 Disconnection will remain as a sanction of last resort.	maintenance of security and reliability for all parties connected to the system.	
New Connections		
Proposal 22: NSP to NSP connection arrangements 22.1 The PNR will include a process for the interconnection of additional networks	The unusual nature of the Pilbara electricity sector means that new connections can be more complex than in most other electricity systems. Providing transparent rules for how to handle the interconnection of existing infrastructure will smooth the process for	N/A. Feedback will be provided by the Regulated Pilbara Network Business

to the NWIS. 22.2 The ISO will manage the connection process for new networks connecting to the NWIS, and for new interconnections between existing networks. 22.3 Connecting networks must show compliance with Chapter 2 of the HTR, unless they are self-contained (established for the purpose of the participant serving only its own facilities). 22.4 Generation, storage, and load facilities on the connecting network must demonstrate compliance with Chapter 3 of the HTR. 22.5 Self-contained network infrastructure may opt to demonstrate compliance at the interconnection point to the NWIS.	sharing infrastructure. Having the ISO manage the interconnection process for new networks provides a level playing field for parties that may compete with existing NSPs.	
Proposal 23: Preferential supply for transmission foundation customers 23.1 Foundation customers of transmission infrastructure will be entitled to firm supply for their loads when using the	Transmission investment and generation investment go hand in hand. Giving foundation customers of transmission infrastructure priority for the use of that infrastructure will reduce their uncertainty about the ability to continue to benefit from	N/A. Feedback will be provided by the Regulated Pilbara Network Business

network components they have funded. 23.2 Foundation customers of transmission infrastructure will be allocated energy from other sources if their generation is constrained in balancing. 23.3 Foundation customers of transmission infrastructure will be settled without imbalance penalties if their dedicated generation is constrained after trading positions are finalised.	this investment. If the Pilbara had locational pricing, this could be done by allocating a financial transmission right for the funded asset, but with a single zonal price, that is not possible, and physical preferential access will be more cost effective than providing constrained payments. Similarly, preferential dispatch for foundation generation could be more easily implemented in a security constrained economic dispatch environment, which is not proposed for the Pilbara at this stage.	
Proposal 24: Self-contained networks 24.1 The PNR will distinguish between a network operator which provides services to third parties, and the operator of network infrastructure that is used to serve load and generation of that network operator. 24.2 Network operators who use their network equipment solely to service their own generation and load, can choose to be treated as a network user (demonstrating compliance at the	Allowing connected parties to manage their own processes is an important part of the approach to Pilbara operations, as long as it can be done without affecting other connected parties. It is not necessary to require self-contained networks to comply with technical rules that support third party access. Providing visibility of connected equipment to the ISO supports power system security.	N/A. Feedback will be provided by the Regulated Pilbara Network Business

connection point with the NWIS), or a network (compliance of all critical equipment within the network). 24.3 New connections must provide standing data and real-time data for individual pieces of critical equipment to the ISO, including if their facilities are subject to connection point compliance. 24.4 An Excluded Network can have a maximum of 10 MW of injection or consumption. If injection or consumption exceeds 10 MW for more than a set percentage of time over a rolling horizon, the Excluded Network status will be revoked. 24.5 A network owner which wants to be treated as a user but is not an Excluded Network is not required to show non-compliance with the HTR to be able to opt for Connection Point Compliance.		
Proposal 25: Storage participation 25.1 Controllers of storage works above 5 MW must register their facilities.	Storage is an important enabler for the connection of increased renewable energy. Allowing storage to participate fully under the PNR will increase the revenue streams available	HP Gen & OB supports the proposal and has no further comments.

25.2 A new defined term 'Energy Producing System' will be added to encompass generation and storage facilities. 25.3 Where appropriate, Rules that refer to generation only will be broadened to refer to Energy Producing Systems. 25.4 Technical requirements for storage works will be added to Chapter 3 of the HTR.	to it, and the overall efficiency of the system operations.	
Proposal 26: Demand side participation 26.1 Load participation in the PNR will be focused on ESS provision and mechanisms for flexible load to take advantage of available variable renewable energy. 26.2 Flexible load can be designated as non-firm in the capacity adequacy process, so that it is not required to be matched by supply capacity. 26.3 Owners of flexible loads can bid in the proposed trading mechanism to purchase additional energy, and then manage their load to match their	Historically, the electricity sector has seen generation as a flexible resource to meet inelastic demand. In a power system with large volumes of variable renewable resources, flexible demand will have greater opportunity to access inexpensive energy much of the time and will see greater incentive to respond at short notice. The proposed arrangements for capacity adequacy and balancing include the ability for participants to leverage load flexibility at portfolio level. This proposal lays groundwork for real-time demand response when it arrives.	Demand side participation can be for ESS/supply shortfall and/or network related issues. While HP Gen & OB supports the proposal, clear distinction, participation and priority needs to be developed as part of the framework. (i.e. ESS first? Supply shortfall/variable renewable energy? Network issues (capacity)? Etc.)

position. 26.4 Owners of flexible loads will be allowed to contract with the ISO to provide contingency reserve raise as interruptible load.		
Development of the Harmonised Technical Rules		
Proposal 27: HTR standards 27.1 The HTR will set a default standard for "automatic qualification". 27.2 NSPs will not have technical standards for connections in addition to the HTR. 27.3 In the medium term, the HTR will set a minimum standard for connection. 27.4 Connection will not be allowed for equipment that falls short of the minimum standard.	The HTR are intended to function as a single, end-to- end technical power system standard for all networks and equipment connected to the NWIS. Allowing automatic rights of connection to parties meeting the standard is a key principle of open transmission access, to enable the evolution of the Pilbara.	HP Gen & OB supports the proposal for a single set of Technical Rules for the NWIS, however there may at times be other standards which apply such as Australian standards. HP Gen & OB also notes that the proposed amendments to HTR clauses will resolve some of the current gaps in the HTR. HP Gen & OB supports the adoption of the proposed negotiation framework which sets a default and a minimum standard, allowing for negotiation between the default and minimum standards.
Proposal 28: HTR negotiation framework 28.1 NSPs must negotiate with access seekers and consult with the ISO on requested departures from the default	If a connecting party does not meet the default standard specified in the HTR, it can affect other connected parties. The ISO has responsibility for the security of the whole power system, so the ISO must be the final	HP Gen & OB supports the proposed HTR negotiation framework.

standard, and the ISO will have final power of approval (as it does for all connections). 28.2 The ISO may provide guidance for acceptable bounds of negotiation, evidence, and mitigation measures. 28.3 NSPs must publish estimated and actual timeframes for connection assessment activities in their control. 28.4 NSPs and access seekers can escalate disputes to the ISO, and where the ISO is a party to the dispute, to an appropriate dispute resolution mechanism. 28.5 NSPs and the ISO must publish agreed deviations from the default standard (whether above or below the standard).	approver of deviations from standards. At the same time, providing visibility to the ISO behind the connection point will enhance the ISO's ability to operate the power system securely. Requiring publication of agreed deviations from the standard aligns with the transparency objectives.	

Evolution of the Pilbara Electricity Access Regime

Horizon Power Generation and Other Business submission

Table 1: Energy Policy WA's (EPWA) proposals to evolve Pilbara Electricity Access Regime (PEAR) and Horizon Power Generation and other Business comments

EPWA Proposals	Rationale	Potential impact on HP Generation and Other Business (HP Gen & OB)
1. Creating the new common-user Pilbara grid: Coverage		
1.1 All new Pilbara transmission assets will be automatically covered, with the exception of certain connection assets. There will be no revocation of coverage for these assets. 1.2 Regulation of these assets will be 'PNAC-style' unless the Minister separately imposes ENAC-style regulation by way of a form of regulation decision, or an NSP opts in to ENAC-style regulation. 1.3 Certain small single user connection assets (still to be defined) may be exempted from automatic coverage until their circumstances change. 1.4 Transition for early projects: Early projects will be expected to opt in to PNAC-style regulation. 1.5 Legacy for existing networks:	Having all new build transmission infrastructure open to third party access is a core Pilbara Energy Transition (PET) objective. The current Electricity Network Access Code (ENAC) coverage process is cumbersome and uncertain, and its coverage criteria are outdated. It will be simpler, and more certain approach, for both transmission investors and access seekers, to provide durable automatic coverage for all new infrastructure. Smaller connection assets may be treated differently.	Unlikely to be significant. May simplify access agreements with major customers and generators as the governing regulations are clarified.

(a) Existing covered networks will be subject to the above arrangements. They will stay covered and, like new networks, will not be able to seek revocation. (b) Existing uncovered networks will continue with the status quo, i.e. will be exempted from automatic coverage but, as now, may be subject to a coverage application. Any such coverage application will be assessed against the ENAC's general coverage criteria, and not any special coverage criteria (if any) which may be prescribed for new PET networks.		
2. Managing Vertical Integration		
2.1 It is proposed to reframe the objectives of PNAC Chapter 8 to include a recognition of the role of incentives. To the extent any proposed measure does not eliminate an NSP's ability to engage in harmful behaviour, it must effectively remove or negate any incentive to do so. 2.2 It is proposed to establish the measures and benchmark as a way of evaluating outcomes in managing vertical integration. 2.3 Feedback is sought on three possible options: • Option A: Require either ownership separation or full operational separation. • Option B (preferred): Permit vertical integration to remain, but implement a granular and possibly staged process in which 'sensitive functions' are either transferred from the	The conflicts of interest and adverse incentives built into vertical integration pose a serious threat both to effective third-party access, and to the efficient operation of electricity markets. In the Pilbara, vertical integration places the PET Plan objectives at risk including the overarching goal of Pilbara decarbonisation. On the other hand, the commercial reality in the Pilbara is that many existing or proposed transmission operators are, or propose to be, vertically integrated. The two methods of managing vertical integration described in Option A (full ownership separation or full operational	All options would have significant implications for HP, with Option A the greatest impact and Option C the least. From a customer perspective, this current arrangement seems to be working well with no evidence of the existing of any "harmful behaviour". It seems that the regulator is more concerned with the threat (or potential) of conflicts than any clear case that this exists. It is likely that the greater the level of separation of ownership and / or functions, the higher the cost of

NSP to the ISO, or left with the NSP but placed under the ISO's supervision or approval, with the outcomes evaluated against the benchmark. • Option C: Expand existing PNAC requirements regarding administrative separation, with likely addition of legal separation, with measures and outcomes once again evaluated against the benchmark. 2.4 It is planned, wherever possible, to use transparency as a supplementary measure to mitigate vertical integration risks. 2.5 The revised regime will include sanctions for non-compliance by way of civil penalties and other remedies. 2.6 If transmission operators are required or permitted to operate energy storage or energy producing equipment to provide system strength, security and reliability services, the measures to manage vertical integration may need to specify certain limited exceptions. 2.7 Transition for early projects: Early projects will be regulated under the existing PNAC regime, supplemented by any commitments made to the State in the course of contractual negotiations. 2.8 Legacy arrangements for existing networks: • Existing covered networks: Consideration is still being given as to whether to provide any legacy protection from the	outsourcing) are the most effective ways of eliminating its risks and so will be adopted as the benchmark to measure alternative approaches. However, to recognise the Pilbara's particular circumstances other options will be considered, of which Option B is presently preferred.	providing energy services, in addition to potentially taking longer to negotiate outcomes with customers. This additional cost/time needs to be weighed up against the actual benefit (not perceived) that separation would provide to end users. With regard to network constraints imposed on generators for system security and reliability services – Essential System Services (ESS) costs should be the largest generator/combination of generators or line contingency. This would be a much fairer distribution of ESS costs as a line should be shared across all the NSPs.

above measures, and if so in what form. Any such protection would only apply to existing assets. • Existing non-covered networks: The PNAC imposes no ringfencing obligations on these networks and, with one qualification, there is no plan to change this. The qualification is that this position may need to be revisited if a non-covered network were to propose to materially change the nature of its interconnection with the shared grid, such that it became materially meshed or looped. It is proposed to address any such situation at that later time, in close consultation with the relevant NSP and recognising that the PNR rule 5 principles may require a bespoke solution.		
3. Managing access across multiple networks		
3.1 The right to access a network will be split into: (a) First, a right to connect (or interconnect) to a network, and a right to inject or withdraw electricity at the connection/interconnection point. This right will be governed by contract, with the contract to be negotiated or arbitrated under the PNAC (or ENAC if applicable) in the usual way. This service will only be available as an enforceable statutory right in covered networks, as is now the case. (b) Second, a transmission use of system (TUOS) right to have electricity pass through a network from one connection/interconnection point to another. This right will	As the Pilbara grid expands, it will most likely involve multiple interconnected covered networks with a variety of owners. The current access model requires an access seeker to negotiate an access contract with the NSP for every network its electricity will transit. As the grid grows, this will require a user to have more and more contracts. Further, as the grid becomes increasingly 'meshed' each user's electricity may follow multiple paths between the injection and withdrawal points. In theory, this could require every user to have an access contract in place	Supported: May make future contracting across multiple NSPs simpler for major accounts and generators.

be enshrined in the PNR and will apply to all networks, covered and non-covered, new and existing. 3.2 Transition for early projects: (a) Early project NSPs and their users will negotiate access contracts as usual under the current PNAC and PNR, including TUOS components as required. (b) The contracts must be able to transition into the new regime whereby TUOS matters are managed under the PNR. (c) EPWA will work with each early project proponent and its access seekers to establish the best way to achieve this, without hindering the reforms or disrupting commercial certainty for either party. 3.3 Legacy arrangements for existing networks: (a) These measures will be developed in consultation with the affected parties, with treatments different for covered and non-covered networks. (b) Covered networks: Endeavours will be made to protect core financial aspects of these contracts (revenue streams, overall risk parameters), but otherwise require all access contracts to be amended to incorporate the new split, with TUOS matters transitioning to be regulated by the PNR rather than the contract.	with almost every NSP, which would quickly become unworkable. The proposed measures reduce each project's contracting requirements to just two – one each for the injection and withdrawal points. All other aspects, including transfer of electricity between those points under a TUOS service, will be governed by the PNR rather than by contract.	

(c) Uncovered networks: EPWA will discuss this individually with each non-covered NSP		
4. Managing how interconnection agreements affect users' access contracts		
4.1 The PNAC or PNR will impose boundaries on matters which can be addressed by an interconnection agreement, and specifically will prohibit an interconnection agreement from seeking directly or indirectly to impose obligations or restrictions on other network users. 4.2 Any matters currently dealt with (or proposed to be dealt with) by an NSP-NSP interconnection agreement which would be precluded by proposal 4.1, should be incorporated in the PNR or HTR. (Possible limited exception: if there are specific matters regarding the interconnection point which are particular to one user, they could be negotiated into the user's access contract as primary obligations). 4.3 Each NSP must review its current and proposed interconnection agreements for compliance with proposal 4.1, and identify any matters which should be considered for inclusion in the PNR under proposal 4.2. 4.4 Subject to limited exceptions relating to purely commercial matters, each interconnection agreement will be transparently visible, at least to the ISO and all network users, but ideally publicly. 4.5 Transition for early projects: Early project NSPs will be free to negotiate interconnection agreements as usual under the	Network-to-network interconnections must be governed by contractual arrangements between the two NSPs. At present, there is little regulation of the content of these agreements and NSPs are free to agree operational and even commercial matters, requiring obligations to be imposed on other network users. This means each user's access contract must integrate with a growing number of interconnection agreements, and a user can be asked to accept operational or commercial arrangements which have been pre-agreed between the NSPs and over which the user has no control. NSPs will still need interconnection agreements to regulate purely bilateral matters, such as physical site access and ownership boundaries, however the proposed measures will ensure any matters regarding the interconnection which need to bind other network users will be placed in the PNR.	Supported: may make future contracting across multiple NSPs simpler for major accounts and generators.

current PNAC and PNR, pending these reforms. They should prudently design contracts to accommodate, and be displaced by, the reforms referred to in proposals 4.1 and 4.2, as they come online. 4.6 Legacy for existing networks: It will be discussed with the parties to the two existing interconnection agreements how best to implement the above proposals, with a view to disrupting existing arrangements as little as possible, and recognising that one of the existing arrangements involves an uncovered integrated mining network.		
5. Managing tariffs across multiple networks		
There is no proposal to change the PNAC at this stage. Further work is being undertaken by EPWA to determine the best approach to address this matter.	EPWA is still considering how best to approach this problem. Among other challenges, not all solutions fit comfortably with the PNAC-style regulation model for network tariffs. Work will continue on this and, in the meantime, stakeholder suggestions will be welcome, especially regarding what has worked well in other multi-network jurisdictions	Current network constraints obligate the ISO or NSP to dispatch generators or issue constraint directions for system security purposes, causing HP generation to incur incremental generation costs. Some of Horizon Power's existing network elements operates at a N-0 standard (i.e 220kV line between Karratha Terminal and South Hedland Terminal). If the most efficient solution is a non-network solution (i.e. starting additional generator units), the generator should be contracted and compensated for incremental generation costs

		incurred for the purposes of network planned maintenance or network security. HP Geb & OB requests the ISO and EPWA to identify "non-NSP services" provided by vertically integrated service providers and develop a mechanism for compensating those services accordingly. The current PNR does not have a mechanism to compensate Horizon Power's generation as a contestable generator under a "supplementary essential services" framework. HP Gen & OB urges EPWA and the ISO to consider these non-NSP service components of vertically integrated service providers as a priority when considering amendments to the PNR and PEAR.
6. Expanded powers to seek pre-approval of tariff and non-tariff elements		
6.1 The PNAC will be amended to allow an NSP to seek pre-approval from the ERA of more elements than just new facilities investment.	The 'PNAC-style' regulation model avoids the cost and delay associated with the ERA's up-front approval of an ENAC-style access arrangement. For Greenfields projects, this saving comes at the cost of the NSP being	None noted at this stage.

6.2 At present, it is proposed to extend the right to seek pre-approval to: (a) the Regulated Asset Base (RAB); (b) forecast operating and maintenance costs; (c) rate of return; (d) depreciation schedule; (e) reference service terms and conditions; and (f) tariff setting methodology. 6.3 Consideration is still being given as to what safeguards (e.g. a reopener on certain trigger events) might be needed in respect of pre-approvals, with stakeholder feedback sought on this point. 6.4 Transition for early projects: Early projects may achieve a similar effect by pre agreeing certain key elements with the State (if the State is willing to do so) as discussed in section 6.2 below. 6.5 Legacy for existing networks: Consideration is being given to also making the expanded pre-approval right available to existing networks.	exposed to after-the-event arbitrator decisions which could undermine tariff and other assumptions embedded in its investment decision. The PNAC already includes a mechanism by which the NSP can mitigate this risk for new capital expenditure, by seeking ERA pre-approval which prevents an arbitrator from later challenging that investment. The proposed reforms would extend this pre-approval to other critical elements, to give greater certainty to Greenfields investors and their users.	
7. Tariffs – Making provision for possible revenue control		

7.1 The PNAC will be amended to allow a covered NSP to be made subject to revenue control. While the detail of this is still to be developed, it may include a form of revenue cap with provision for incentives. 7.2 If revenue control is implemented on a network, negotiated outcomes should not result in an NSP earning more than an appropriate risk-reflective rate of return, subject to any incentive mechanisms specified in the revenue control. 7.3 The revenue control model should incentivise efficient growth in network utilisation, and share the benefits of utilisation growth appropriately between the NSP, existing users and new users. 7.4 Revenue control will not necessarily apply automatically to all new networks. It may apply to a network only if the NSP opts in, or only after a trigger event occurs. 7.5 Transition for early projects: Early projects may be required to commit to revenue control as part of their development agreement with the State. The model chosen should accommodate future-ready uncontracted capacity. 7.6 Legacy arrangements for existing networks: Revenue control will not apply to existing covered networks unless a specified trigger event occurs.	Tariff regulation is designed to give the NSP an opportunity to earn a fair, but not excessive, level of revenue. It is in the long-term interests of electricity consumers for the NSP's business to be sufficiently profitable (and efficient) to be sustainable, but not for the NSP to be able to leverage its monopoly power to earn super profits. The current 'PNAC-style' regulatory model contains little scrutiny of NSP revenues, and limited opportunity for intervention if an NSP is earning more than a reasonable risk-reflective return on its investment. Revenue control measures allow for such intervention. They can be designed to ensure that beneficial incentives remain ,e.g. to ensure that the NSP is incentivised to attract more users to share the network cost, lowering tariffs for all.	No impact on existing retail contracts – may ultimately impact the price of future network charges which are typically direct pass-throughs. From a retail perspective, in addition to revenue sufficiency and efficiency (aligned to efficient costs), it is important to also avoid price shocks. That is, smoothing of revenue requirements is another outcome sought by customers. See comments under item 5, Managing tariffs across multiple networks.

8. Managing tariffs for future-ready capacity		
It is proposed that the PNAC will remain unchanged in relation to this matter until a case for change emerges.	It is quite likely that no amendments will be needed for the PNAC to accommodate the tariff models that proponents develop to accommodate future-ready uncontracted capacity. If it emerges that the PNAC cannot do so, the merits of any possible amendment, and the need for and appropriateness of any transitional measures, will be considered at the time.	No impact
9. Model access terms and conditions		
9.1 The PNAC will be amended to set out a set of model terms and conditions for access contracts, as is done with Appendix 3 to the ENAC. 9.2 The NSP's published services and pricing policy will be encouraged, but not compelled, to adopt these model terms. The NSP will be required to identify and explain any departures. 9.3 In an access dispute, the arbitrator would apply the model terms as a benchmark. 9.4 Transition for early projects: The development agreement between the proponent and the State may append a set of model terms, to be used in the above manner pending PNAC reforms. The agreement will specify what happens to any such	Access terms are important – whether a given tariff represents good or poor value depends on the risk allocation and other matters set out in the accompanying contract. An inability to agree access terms can be as much of an obstacle to access as an inability to agree a tariff. The proposed reforms will increase the level of assistance given to NSPs and access seekers in this regard, by providing a balanced set of model terms and conditions which is reasonably fair to both parties, which can be used as a guide. Providing a set of model terms and conditions is intended to maximise both parties' chances of reaching a commercially appropriate	HP Gen & OB support the development of model terms and conditions for access contracts. Will not impact any existing arrangements but may make the T&Cs for future negotiations simpler and less open to debate.

appended model terms, once the PNAC is amended to prescribe a set of model terms. 9.5 Legacy arrangements for existing networks: The PNAC model terms will apply to existing covered networks in the same way as new covered networks. Existing contracts will be unaffected and continue on their negotiated terms. This reform will have no impact on non-covered networks	outcome without having to resort to arbitration. If arbitration cannot be avoided, these model terms and conditions should simplify the process.	
10. Dealing with foundation user requirements		
10.1 The paper proposes to supplement the Act's "purpose" test, to better regulate foundation user and other contractual rights which have the effect of preventing or hindering access by others. 10.2 Suitable transparency measures will be introduced, to ensure that any breaches of these prohibitions can be detected. 10.3 Transition for early projects: these matters may be managed by a development agreement between the proponent and the State. 10.4 Legacy for existing networks: no general legacy is planned. All future access contracts on existing covered networks will be expected to comply. The State will work with each covered NSP to determine which (if any) specific legacy treatment for pre-existing contracts is needed and appropriate	Foundation users in effect underwrite the Greenfields development risk on new transmission lines. In return, they typically require special benefits to mitigate this risk and to reward them for taking it. Within reason, this can be appropriate, but excessive foundation user rights can be a barrier to access by other users. The PET Project wishes to ensure the necessary transmission infrastructure gets built. This means that proponents must be able to able to attract finance, for which they will likely need to attract foundation users, and so they must be able to offer foundation users sufficiently attractive rights. On the other hand, the regime will seek to ensure that it remains viable for subsequent	Supported by HP Gen & OB at this stage. No impact anticipated on existing customers.

	access seekers, by placing some limits on foundation user benefits.	
11. Improved accountability		
11.1 It is proposed to supplement arbitration of access disputes with other accountability measures, which may have a lower threshold of activation and so improve accountability generally. 11.2 Measures under consideration include: (a) Activating the Electricity Industry Act 2004's civil penalty and other enforcement regimes for both the PNAC and PNR. (b) A form of rapid (likely binding) expert determination for technical matters. (c) Formal published advisory opinions by an agency or independent expert. (d) Triggers which activate more stringent regulation, including possible triggers to switch a network from PNAC-style to ENAC-style regulation.	The PNAC-style regulation model relies on an access seeker having the necessary time, resources, will and risk appetite to progress an access dispute arbitration. If access seekers are reluctant or unable to start access disputes, the NSP may not be held properly accountable to comply with the PNAC. The contemplated reforms would add easier and faster accountability measures, to supplement arbitration, which would remain as a back-stop.	Increases the risk of litigation/arbitration and in the very least, may increase reporting requirements. Not clear whether the actual risk justifies additional scrutiny. The lack of current disputes is highly likely to be strong evidence that all is actually well.

12. A transitional "fixed principles" mechanism		
Consideration is being given to implementing a transitional mechanism in the form described under "Option under consideration" in section 6.2.2.	The State is negotiating development agreements with the proponents of early priority transmission projects. In a perfect world, the contemplated reforms would all be completed before these development agreements needed to be finalised, but this is not possible. As a result, the State and a proponent may wish to agree certain matters about access to the new infrastructure, before regulatory mechanisms for those matters are in place. A "fixed principles" mechanism will, with suitable safeguards, allow the revised PNAC (and perhaps PNR) to recognise and accommodate any such pre-agreed matters.	Noted