APA

Australia's energy infrastructure partner

Evolution of the Pilbara: Consultation Papers

APA submission to Energy Policy WA

29 April 2025

Acknowledgement of Country

At APA, we acknowledge the Traditional Owners and Custodians of the lands on which we live and work throughout Australia.

We acknowledge their connections to land, sea and community.

We pay our respects to their Elders past and present, and commit to ensuring APA operates in a fair and ethical manner that respects First Nations peoples' rights and interests.

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29 April 2025

Dear Mr Bray,

Pilbara Evolution Consultation Papers

Thank you for the opportunity to comment on the Pilbara Evolution Consultation Papers. We welcome Energy Policy WA's reform of the Pilbara electricity regulatory regime to support the energy transition and the decarbonisation of the Pilbara.

APA recognises the critical importance of the proposed reforms. If the State Government's net zero by 2050 objectives are to be realised, it is imperative that appropriate market design and implementation is undertaken in a structured and strategic manner.

A key focus of these reforms should be creating a regulatory environment that encourages and derisks investment in greenfield, large-scale transmission infrastructure by providing long-term investment signals. The Pilbara will continue to be dominated for the foreseeable future by a relatively small number of large customers for whom bilateral contracting, rather than regulation, drives investment. APA believes a light handed regulatory environment, developed with this purpose and market structure firmly in mind, will help unlock investment in a way that best manages the needs for investment with impacts and opportunities for Traditional Owners, the environment and community.

Before designing and evolving a new market ecosystem that caters for an interconnected, high voltage transmission network capable of moving transformational volumes of renewable energy, technical challenges within the Harmonised Technical Rules (HTRs) need to be addressed. Reform of the HTRs is crucial to accelerate the rate at which new connections can be incorporated into the desired future interconnected Pilbara system in the future.

Thank you for taking on board industry feedback and for your commitment to ongoing consultation. We welcome the opportunity to meet with Energy Policy WA to discuss our submission in more detail and to further explore how we can continue to collaborate on these important reforms.

Please contact Lizzie O'Brien on 08 9224 7201 or lizzie.obrien@apa.com.au if you have any questions about our submission.

Yours sincerely,

Beth Griggs
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1. Executive Summary

Key Points

- We strongly support a continuation of the 'light regulation' framework that exists in the Pilbara, where bilateral contracting, rather than regulatory processes, drives investment.
- Third party access to all new electricity transmission infrastructure will be critical to support the development of a truly shared common-user power system in the Pilbara.
- Reform of the Harmonised Technical Rules (HTR) is urgently needed to enable connection of renewables and energy storage systems and should be progressed independently of the access regime reforms to avoid further delays and costs to consumers.
- An independent control desk is critical for competitive neutrality; however, expanding the role of the Independent System Operator (ISO) will increase costs significantly, long before the functions are needed.
- We consider that vertical integration issues can be addressed through the introduction of legal and staff separation for new transmission assets at an appropriate time, rather than through a significantly expanded ISO.
- Some of the proposed reforms are unlikely to be needed in the near term. We suggest that Energy Policy WA continue monitoring market maturity and the evolution of investment incentives to help ensure reforms support – rather than unintentionally divert – investment in projects that contribute to achieving the State's Pilbara Objective.

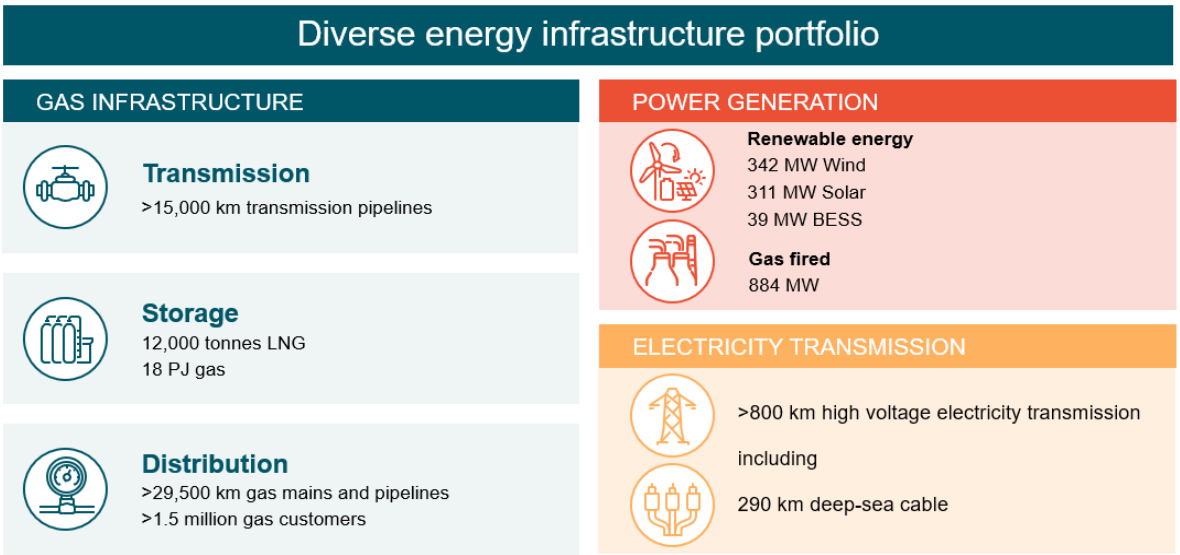
APA Group is a leading Australian Securities Exchange (ASX) listed energy infrastructure business. We own and/or manage and operate a diverse, $26 billion portfolio of gas, electricity, solar, battery and wind assets and have a workforce of more than 2,700 in all regions and territories of Australia.

We actively support the transition to a lower carbon future. In September 2024, APA published its FY24 Climate Report, detailing our progress against our Climate Transition Plan. This plan outlines our commitments to support Australia's energy transition and pathway to net zero operations emissions by 2050.

APA has long been a committed investor and responsible energy infrastructure operator in Western Australia. In 2023, APA acquired the Alinta Energy Pilbara business with the objective of supporting the decarbonisation of the region and some of Australia's largest mining companies. APA has more than 25 years history in the Pilbara, and together with APA's broader expertise across the business, we have a deep understanding of delivering safe, reliable energy in the Pilbara and other remote regions.

APA constructs, owns, and operates large-scale infrastructure across Australia (see Figure 1).

Figure 1: APA's portfolio



As an experienced owner and operator of energy assets across Australia, including in the Pilbara, APA has first-hand knowledge of the different regulatory frameworks that apply to both electricity and gas assets. This positions APA to offer valuable insights into the development of a new regulatory framework in the Pilbara, drawing on our in-depth knowledge of the existing legislation in each jurisdiction.

In conjunction with operating assets regulated under the Pilbara Network Access Code (PNAC), Pilbara Network Rules (PNR), and the Wholesale Electricity Market Rules under the Electricity Industry Act 2004 (WA), APA operates assets that are regulated under the National Gas Rules (WA) and the National Electricity Law (NEL) and National Gas Law (NGL) on the east coast of Australia.

The current regulatory framework commenced for a transitional period on 1 July 2021 and was fully implemented on 1 July 2023. The full regulatory framework has therefore been in place for less than two years.

The PNAC framework is sensibly founded on commercial decision-making and contracting, rather than regulatory processes, and has supported commercial arrangements leading to the development of several new renewable and battery energy storage projects. However, the PNR technical provisions do not reflect the Pilbara context and have not been adequately updated to enable the expedient connection of new renewable and battery energy storage projects. Currently, the application of the PNR aligns more closely to connection of facilities in the Wholesale Electricity Market (WEM) or the National Electricity Market (NEM) prior to the introduction of inverter-based generation, which is stalling the connection of new projects despite these being in demand.

For the State's Pilbara Objectives to be realised, the reforms must allow the PNAC provisions that are working well to continue to foster development and should urgently focus on the technical updates required to enable the accelerated connection of new renewable and battery energy storage projects.

More broadly, when updating the regulatory framework that applies in the Pilbara, it is very important that the market fundamentals that have underpinned the development of infrastructure are maintained. This means that bilateral contracting should remain the foundation of the market in the Pilbara's North West Interconnected System (NWIS).

Any reforms to the PNAC and PNR should be fit for purpose and cater for the specific characteristics and drivers of the Pilbara, as opposed to other markets. Wholesale reforms which impose complex and highly centralised market structures are unlikely to derive benefits in the Pilbara, given the market is still very much in its infancy.

We therefore consider that any market reforms should be appropriately staged, reflecting realistic projections of renewable energy in the generation mix. We look forward to further consultation from Energy Policy WA on the timing of any reforms and welcome the opportunity to discuss our views on the importance of timing prior to the detailed drafting process.

Our submission below acknowledges the State Government's objectives in proposing the reforms and highlights the market realities of developing an interconnected power system that, over time, would achieve these objectives.

Our submission is structured as follows:

- Chapters 2 to 6 provide feedback and insights on key issues raised in the Consultation Papers,
- Appendix A provides responses to the proposals and questions raised in the PNAC Consultation Paper, and
- Appendix B provides responses to the proposals and questions raised in the PNR Consultation Paper.

Introduction: Understanding of the Pilbara

2. Introduction: Understanding of the Pilbara

In February 2024, Energy Policy WA released the Evolution of the Pilbara Access Regime Consultation Paper (PNAC Consultation Paper) and the Evolution of the Pilbara Networks Rules Consultation Paper (PNR Consultation Paper) (together, Consultation Papers), inviting comments on a series of reforms aimed at realising a long-term visionary future for decarbonising power supply in the Pilbara.

The Consultation Papers propose changes to the PNAC and PNR and have been developed as part of the Pilbara Roundtable and Pilbara Advisory Committee work programs.

Energy Policy WA is proposing these changes in order to implement the Pilbara Energy Transition Plan (PET), which requires increased interconnection, increased renewable generation and increased private sector investment to be realised.[1]

Energy Policy WA modelling provided to Pilbara Roundtable members in December 2023, shortly after the PET was endorsed by the State Government, outlined the intention of the PET is to increase renewable generation in the region from approximately 16 terawatt hours (TWh) to 50 TWh by 2051. This would be enabled by an interconnected, common-use grid which requires more than 3,000 kilometres of new transmission infrastructure, predominantly across four corridors.[2]

Figure 2: PET investment requirements

	↑ 34 TWh of new renewable generation (Energy Policy WA estimated required investment between 2023 and 2051)		**↑ 3,000 km of new transmission lines** (Energy Policy WA estimated required investment between 2023 and 2051)
	$3.4 billion to $10.2 billion (assuming at $100 to $300 per MWh)		**$6 billion to $13.5 billion** (assuming $2 to $4.5 million per km)

APA fully supports the intention of the Pilbara Energy Transition Plan, recognising the significant benefits that, in the longer term, will flow to both participants and customers of the Pilbara electricity systems. These benefits will derive from an open access regime which supports interconnection, and where all parties utilise the same technical rules and are obliged to do their part to maintain system security and reliability. Some of the benefits include:

- significant energy cost savings for customers leading to material economic growth;
- more efficient use of electricity infrastructure; and
- significantly improved opportunities for decarbonisation initiatives.

APA appreciates Energy Policy WA's efforts in developing the Consultation Papers and the opportunity to participate in workshops held by the Pilbara Advisory Committee and the Evolution of the Pilbara Network Rules Working Group in the lead up to the publication of the papers.

The Consultation Papers propose significant reforms to the PNAC and PNR. Finding the right balance between regulatory oversight that moves towards a common-use, interconnected Pilbara system and enabling solutions to be customer-led in a way that attracts sufficient investment will be critical.

We appreciate the Government's ongoing commitment to collaboration and work to ensure reforms in the Pilbara continue to take into account the needs of industry.

[1] Government of Western Australia 2017 to 2025, 'Regulatory changes in the Pilbara' web page, 3 April 2025, https://www.wa.gov.au/organisation/energy-policy-wa/regulatory-changes-the-pilbara
[2] Energy Policy WA, Pilbara Electricity Modelling Report – Stakeholder Summary, December 2023

2.1. APA in the Pilbara

Our electricity journey in the Pilbara started in the 1990s with Port Hedland Power Station and Newman Power Station, and APA has continued to progress and evolve development to meet our customers' changing needs. This is evidenced by:

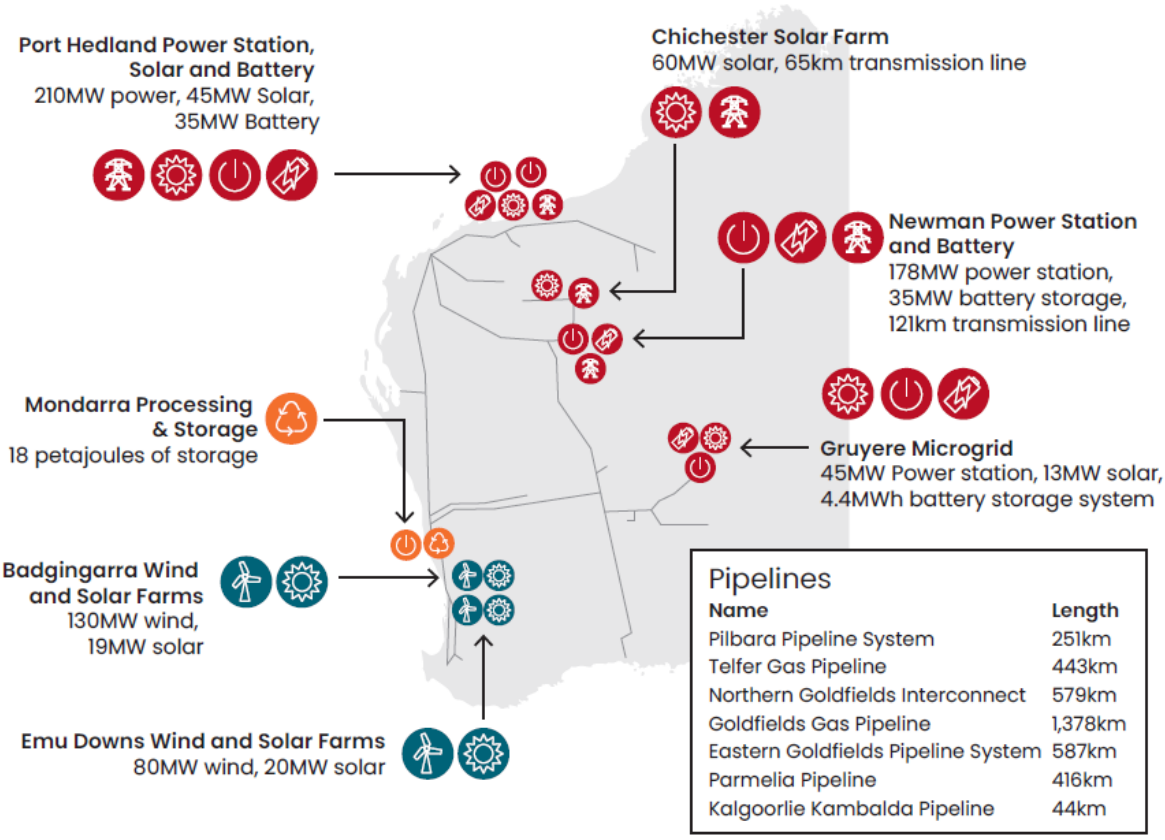
- the Newman Battery, which was Western Australia's largest Battery Energy Storage System (BESS) project at commissioning;
- the Chichester Solar Farm, the Pilbara's first large-scale renewable project; and
- the Port Hedland Solar and Battery Project.

APA owns and operates two distinct electricity transmission systems in the Pilbara.

1. At Port Hedland, the company owns and operates the APA DEWAP network, which is a 66kV network with two large, connected customers, gas generation from Port Hedland Power Station, and new generation from the Port Hedland Solar and Battery project.
2. In the inland Pilbara, APA owns and operates a 220kV electricity transmission system that supplies several mining sites. The 121km Newman to Roy Hill transmission line was commissioned in 2015, and APA extended this by 65km in 2021 to the Christmas Creek and Cloudbreak mine sites.

APA's networks all provide third-party services. Our ADEWAP network in Port Hedland is covered under the PNAC and subject to light regulation. The inland networks are not covered by the PNAC or economically regulated.

Figure 3: APA in Western Australia

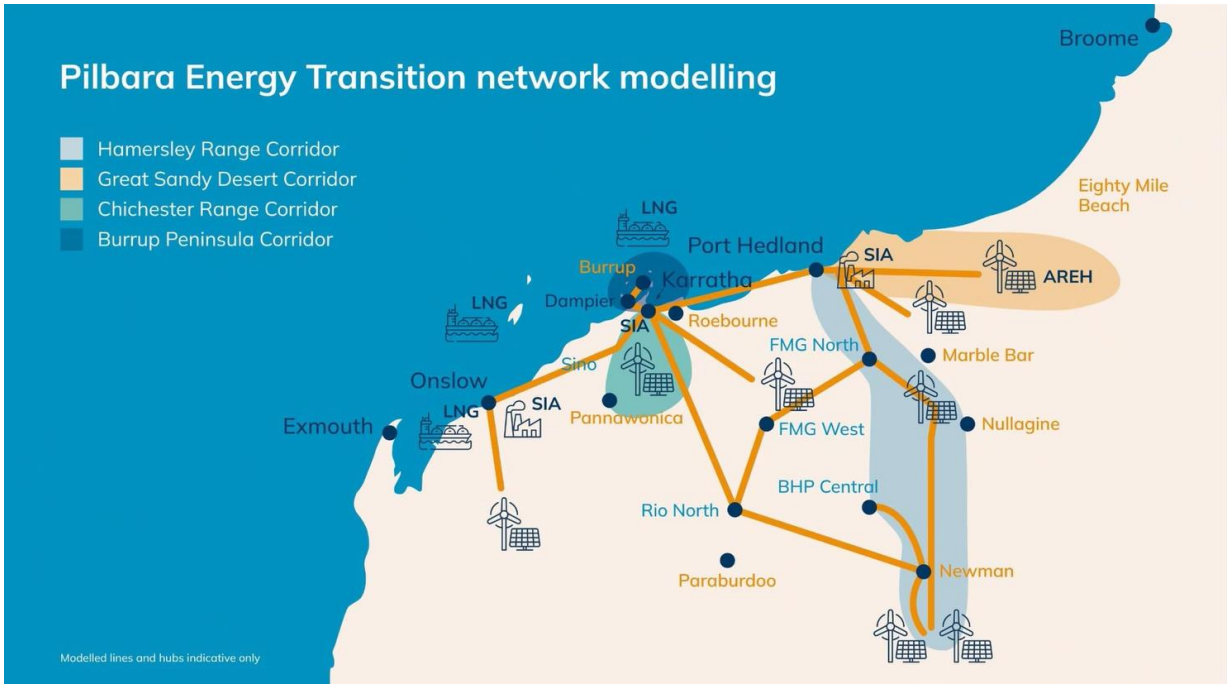


This technical expertise is matched by our financial strength and capability. APA is one of Australia's largest energy infrastructure businesses and a highly experienced and sophisticated capital market participant. APA possesses a balance sheet that is well positioned to support investment in growth projects, including in the Pilbara.

In December 2024 the Western Australian Government awarded Priority Project status to APA for the delivery of electricity transmission in two corridors that will support decarbonisation across the Pilbara: the Hamersley Range Corridor, which will connect APA's Port Hedland and Newman Power Stations; and the Burrup (Murujuga) Corridor (Figure 4).

APA therefore has a strong interest in the development of a regulatory framework that will support the development of common-user electricity transmission infrastructure in the Pilbara. However, to do so with certainty, regulatory settings that provide long term investment signals are essential.

Figure 4. Designated priority corridors



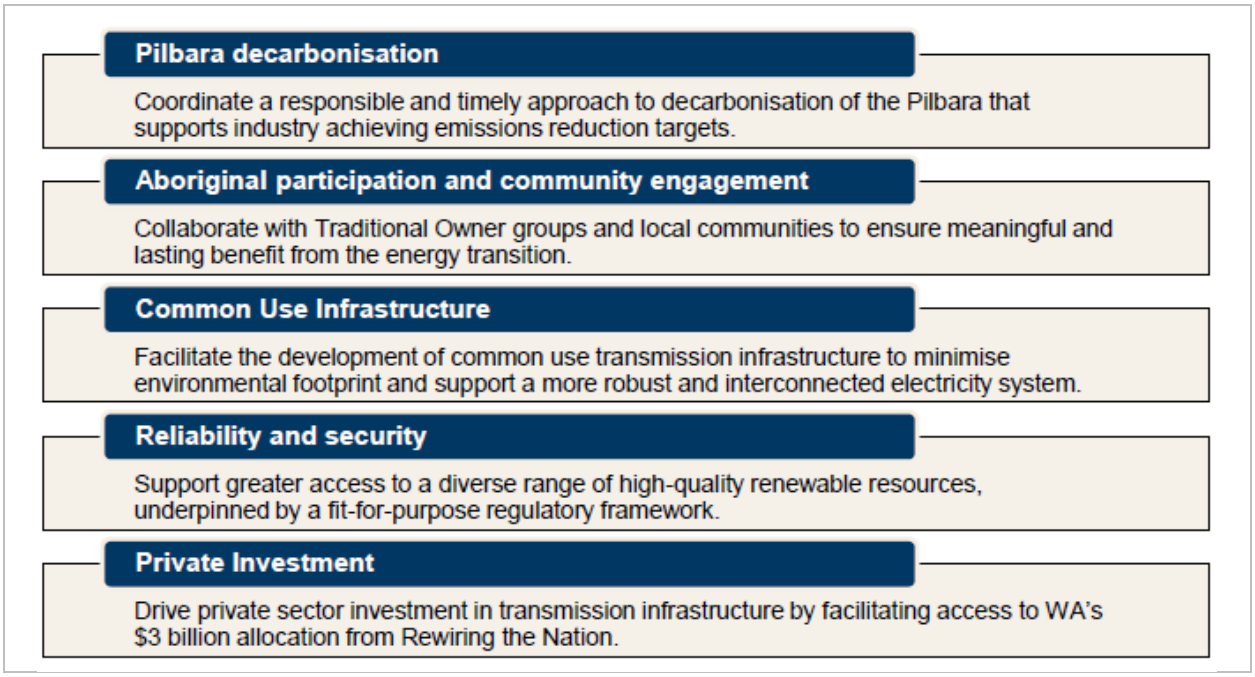
Source: Government of Western Australia, 'Designated Priority Corridors' webpage, updated 12 March 2025[3]

[3] Refer to: Designated Priority Corridors

2.2. Reform to achieve the State's Pilbara Objectives

APA welcomes the State Government's efforts to bring together a long-term plan for the Pilbara's electricity systems. The end-goals, captured in the State's Pilbara Objectives (Figure 5), provide a clear target for diverse stakeholders to work collectively towards throughout the significant decarbonisation journey.

Figure 5: The State's Pilbara Objectives



In developing our submission, APA has considered the ability for the proposed changes to help aid in achieving the State's Pilbara Objectives.

We agree with the more detailed aims of the reforms within a PNAC and PNR context, namely:

- Changes proposed to the Pilbara Electricity Access Regime aim to:[4]
  - Attract substantial private investment in new transmission lines,
  - Ensure that network access seekers can achieve access on reasonable prices and terms within a reasonable timeframe, and
  - Maintain energy supply security and reliability.
- Changes to the PNR aim to facilitate the decarbonisation of the Pilbara region to achieve Australia's net zero 2050 target.[5]

As part of subsequent detailed reform work, we expect Energy Policy WA to align changes with the Pilbara Electricity Objective and give full consideration to the Pilbara's unique characteristics, which is a requirement under Part 8A of the *Electricity Industry (Pilbara Networks) Regulations 2021*.[6]

[4] Energy Policy WA, Evolution of the Pilbara Electricity Access Regime: Consultation Paper, 4 February 2025, p. vii.
[5] Energy Policy WA, Evolution of the Pilbara Network Rules, 4 February 2025, p. vii
[6] The circumstances that a performing a function under the Regulations must have regard to when considering whether it's performance of the function meets the Pilbara electricity objective are prescribed as:
a. The contribution of the Pilbara resources industry to the State's economy;
b. The natural and scale of investment in the Pilbara resource industry;
c. The importance to the Pilbara resources industry of security and reliable electricity supply;
d. The nature of electricity supply in the Pilbara region, including whether or not regulatory approaches used outside the Pilbara region are appropriate for the region, Pilbara network users and Pilbara networks.

2.3. Reforms need to recognise the competitive pressures in the Pilbara

The Pilbara power system is comprised of isolated electricity generation, transmission and distribution assets. The assets are owned by many different parties, under both private and public ownership including:

- Vertically integrated energy providers such as APA and Horizon Power.
- Non-vertically integrated energy providers who provide generation on the NWIS and to isolated mining sites throughout the Pilbara.
- Large vertically integrated mining and mineral processing companies with extensive transmission networks including Rio Tinto, FMG and BHP.
- Large mining, mineral processing, oil and gas companies that use on-site generation or have small isolated systems which are either self-supply or third-party supplied.
- Small customers in coastal towns and remote villages serviced by Horizon Power or, in the case of some mining villages, as part of the power systems that also supply power for mining activities.

Unlike in other electricity markets, there are relatively few customers in the Pilbara region that drive load requirements. These large customers are typically highly sophisticated with significant buying power and the ability to 'self-source' their power solutions. This profile is unlikely to materially change in the future and will still be the market environment in 2050.

Further, individual projects requiring power inputs are typically large enough to justify investment in dedicated generation infrastructure that is sized to suit the project's needs alone. Hence, investment in new infrastructure is typically lumpy with limited excess or speculative capacity where only private sector investment is involved.

Figure 6: The Pilbara's unique characteristics

There are significant competitive pressures in the Pilbara power supply market. Large customers conduct competitive tender processes to inform the development of power solutions. Significant competitive pressure exists between the development of on-site solutions, which may combine modular renewable energy and storage with small-scale thermal generation for firming, and transmission-inclusive power solutions. Customers compare third party supplied options with their own internal self-supply alternatives.

Large customers only select transmission-inclusive, grid-connected solutions from third-party power providers where it's cost efficient, and the proposed solution aligns with their reliability objectives, procurement requirements and investment risk profiles. Often, this decision is made by considering financial outcomes on a project-by-project basis (i.e. based on an individual mine site), rather than strategically procuring power solutions that serve multiple project sites across the mining company's portfolio. With the exception of the NWIS coastal region, strategic development of power solutions that include transmission networks have largely been developed by large miners under self-sourced arrangements.

Given the ownership of the mining tenements, land access arrangements in the Pilbara and the nature of oil, gas and hydrogen projects, we do not expect a significant increase in the number of customers or major changes in their needs that would alter the current competitive dynamics—where customers drive and determine power investment requirements.

Rather, as Priority Project corridors are developed – enabling mining electrification concurrently with decarbonisation – the buying power of a few large customers is expected to grow. Additionally, new customers

entering the market after transmission is built will be in a unique negotiating position, particularly where transmission infrastructure is not fully contracted.

The distances between customer sites in the Pilbara are considerable. Customers with projects in more isolated areas are likely to prefer on-site solutions for reliability reasons[7] and because, for a period of time, transmission-inclusive solutions may remain cost prohibitive on a project-by-project basis.

Finally, power supply investments that service large customers in the Pilbara are subject to global market pressures and heightened uncertainty relative to other Australian power markets. A very current example is the global uncertainty due to the Liberation Day tariff reforms being implemented in the United States (US). These reforms may result in increased tariffs being placed on steel and other metals being sold to the US, which is likely to put downward pressure on pricing for Western Australian commodities.

The global market for green steel and green hydrogen is also currently decreasing so the growth in the electrical loads in the Pilbara could be substantially delayed.

Recommendation

Reforms should carefully recognise the competitive market pressures in the Pilbara power supply market, which is driven by large customers with unique demand preferences and global market pressures.

Regulatory frameworks that are designed to protect and cater for many small and less-sophisticated customers, such as those that apply in the South West Interconnected System (SWIS) and the NEM, are designed with different objectives in mind. These frameworks assume:

- supply via the network is the primary or only option, which is not the case in the Pilbara where transmission-inclusive solutions compete with on-site generation.
- load consistently grows or is relatively stable over time driven by large volumes of customers, which is not the case in the Pilbara where load requirements are large and lumpy driven by a small number of very large customers.

In fully regulated environments such as the SWIS and NEM, transmission can be oversized and the costs recovered over a large, diverse and established customer base. This is not the case in the Pilbara, where there may only be a small established customer base and costs are recovered through bilateral contracts.

To attract investment in the Pilbara, it is essential to fully recognise the region's unique competitive pressures and market characteristics. Regulatory settings that support bilateral contracting and provide long term certainty to developers/investors and customers are essential to attract the investment necessary to achieve the State's Pilbara decarbonisation objectives.

[7] Due to the number of kilometre of lines involved and the tendency for single events to take out double-circuit redundancy in radial connections.

2.4. Developments in the Pilbara will be customer driven

Given the nature of power requirements in the Pilbara, we anticipate that customers will continue to drive what power solutions are developed and when investment is required. That is, generation, storage and transmission investment will go hand-in hand with load investments, based on the individual needs of the customer.

Commercial decision-making and each customer's decarbonisation objectives will also continue to drive the development of power solutions. The timing and scale of investment will depend on each customer's unique positions and their reliability and cost appetite.

As outlined in section 2.3 above, common-use transmission-inclusive power solutions currently compete with onsite, isolated power solutions. To change the incentives for customers to prefer a common-user solution as a means of accelerating decarbonisation for customers, the reforms need to prioritise the development of new common-use transmission corridors in the first instance**.** As identified in Energy Policy WA's modelling of high penetration renewables in the Pilbara, "none of the scenarios are achievable without new transmission build."[8]

If supported by customers, the development of new transmission will, in most cases, coincide with the development of new renewable generation and storage that will service new or expanded load and potentially displace some existing thermal generation. During these early stages of decarbonisation, APA expects there will be limited excess renewable generation available. This is because customers will prefer to consume renewable generation whenever it is available.

During the period when interconnected transmission infrastructure is being developed and before renewable generation reaches levels when, at certain times, it would be curtailed if not bilaterally traded, the reforms must strike a careful balance to avoid creating barriers to entry while creating private investment opportunities that realise the State's Pilbara Objectives.

Longer term, APA agrees with the State Government's analysis that an interconnected network will lead to a more efficient decarbonisation path for all Pilbara participants, as it will reduce the amount of generation that is required.

Recommendation

In achieving the State's Pilbara Objectives, Energy Policy WA needs to recognise the important role of the customer in driving outcomes. Investments will be driven by each customer's unique requirements, so the reforms need to encourage customers to procure energy from developments aligned to the State's Pilbara Objectives.

Unlike the WEM or the NEM, where the customer base is large and diverse enough for key market drivers to guide investment, the type and timing of investment in the Pilbara will be directly driven by customer's unique requirements. This investment will typically be determined via a competitive procurement process, so the reforms need to encourage customers to procure energy from developments aligned to the State's Pilbara Objectives.

The timing of reforms will be critical. Some changes—such as updates to the HTR and changes to the coverage of new transmission developments—should be prioritised. Other proposals outlined in the Consultation Papers require further consultation and workshops with industry before they can reasonably be progressed in a manner that aligns customer's requirements with the State's Pilbara Objectives. APA welcomes the opportunity to discuss the timing of reforms with Energy Policy WA.

[8] Energy Policy WA, PAC meeting minutes for 29 August 2024, Appendix A – Stage 2 Modelling Outputs, p. 30

Supporting common-use transmission

3. Supporting common-use transmission

3.1. Long term certainty is needed to drive investment

Long-term regulatory and policy certainty is critical to incentivise investment in transmission and generation infrastructure and accelerate the energy transition in the Pilbara. There are several risk factors that will influence investment decisions that would achieve the State's Pilbara Objectives, including:

- The development of large-scale transmission networks and renewable energy projects requires substantial upfront capital investment, involves long lead times and has significant commercial risk that needs to be underpinned by contracted customers.
- Electricity transmission and generation infrastructure have long asset lives.
- Development of greenfield electricity infrastructure faces additional risk compared to brownfield assets.
- Common-user infrastructure is being designed with excess capacity that lacks a fully established customer base at the time of investment, adding risk.
- As outlined in chapter 2 of this submission, commercial appetite for transmission-inclusive power solutions varies. Customers may "opt out" of an interconnected system if cost and/or risk positions are unacceptable.

Given these factors, investors need assurance that market conditions, regulatory frameworks, and policy settings will remain stable over the long term. Without this certainty, the risks associated with large-scale infrastructure investments may outweigh expected returns, deterring private sector participation.

Several mechanisms were proposed by Energy Policy WA in the PNAC Consultation Paper that would assist in providing this assurance including the introduction of fixed principles and transitional and grandfathered arrangements for existing assets and developments.

Fixed principles could support future investments that align with the State's Pilbara objectives

APA supports the adoption of fixed principles in the PNAC. This approach will help improve investment certainty by enabling components of the regulatory investment framework or agreements to remain, as agreed at the time of investment, regardless of future PNAC or PNR changes.

The PNAC Consultation considers two circumstances, both applicable to greenfield projects that are subject to separate agreements with the State, when a fixed principles approach may be warranted:

1. To manage regulatory risks associated with ERA oversight and in relation to the current reform process that may otherwise deter significant investments in transmission infrastructure.
2. To preserve agreed arrangements that may be less flexible than would otherwise be provided for in the PNAC or PNR.

APA considers fixed principles could be used for a wide range of purposes, including those considered in the PNAC Consultation Paper. For example, protection from 'form of regulation' reviews, including ENAC-style coverage, may be required where the Network Service Provider (NSP) is taking strategic risk given the level of investment needed and the lack of a diversified customer base.

APA sees merit in adopting a fixed principles approach for future greenfield transmission projects beyond those currently being considered as Priority Projects. The current transmission corridor projects are expected to enhance the interconnection of the existing Pilbara energy system. However, further developments of the transmission system may require support from the State Government through contractual arrangements. These projects may face similar risks that support the use of a fixed principles approach.

Transitional arrangements are required to support investment certainty

Preserving the regulatory conditions under which investment decisions are made is crucial for managing regulatory uncertainty and sovereign risks.

The Consultation Papers broadly consider application of updated PNAC and PNR provisions to three types of projects that may be subject to grandfathering or transitional arrangements:

1. Existing, already constructed assets,
2. Projects currently under development which are not Priority Projects,
3. Priority Projects that will be subject to agreement with the State Government.

The Consultation Papers predominately consider the grandfathering of arrangements for transmission infrastructure and do not always specify how arrangements affecting generation and load could be grandfathered.

APA supports the application of grandfathering arrangements to all existing assets and transitional projects that are not subject to agreement with the State Government. Unwinding and/or separating APA's existing transmission and generation facilities in the Pilbara to implement the broad suite of reforms contemplated would be complex and involve considerable time and cost. This is because legacy arrangements are embedded in customer contracts, lease and other tenure arrangements, access and approval documents, licencing and tax arrangements (as examples). The benefits of such a process would be unlikely to outweigh the costs. Further, these contracts have been competitively procured consistent with market conditions of the supply of power (outlined in section 2.3).

APA understands that the introduction of a fixed principles mechanism in the PNAC will ensure key components of the regulatory investment framework or agreements to remain consistent with the conditions agreed upon at the time of investment. These principles must safeguard against future changes to the PNAC or the broader regulatory framework that could undermine the commercial conditions under which the initial investments were made. This is essential to provide the regulatory certainty needed to support major investments, such as the current transmission corridor projects.

Recommendation

APA appreciates Energy Policy WA's recognition of the regulatory safeguards needed to attract the levels of investment required to achieve the State's Pilbara Objectives.

We recommend that Energy Policy WA proceed with drafting measures that allow fixed principles to be applied to both Priority Projects and other future projects that align with State objectives. To support the investments required, the detailed drafting should:

- consist of clear regulatory safeguards to prevent situations where investors bear disproportionate risk while waiting for demand to materialise, and
- recognise foundation customers including both those supporting the Priority Projects and other future projects that align with the State's Pilbara Objectives, who are willing to underwrite large-scale, long-term investments, through appropriate rights and protections that incentivise their early participation, and do not disadvantage them against future developments.

Grandfathering of arrangements that apply to existing, already constructed assets and those that are currently in development is required as the Pilbara transitions to the new regulatory framework. APA would be open to working with Energy Policy WA to discuss in further detail these arrangements and how and to what extent they might be transitioned in future.

3.2. The 'light regulation' regime introduced in 2021 remains fit for purpose

Consistent with the requirement for regulatory frameworks to provide long term certainty, APA supports changes to the PNAC that preserve the light-handed approach that was transitionally introduced in 2021 and took effect in 2023.

The light regulation regime supports the right to negotiate under commercial conditions and efficiently allocate risks between each party. This approach will facilitate the development of the system in a managed and

competitively neutral manner, while ensuring regulation does not pre-empt market conditions in a way that creates perverse incentives.

The PNAC framework is founded on commercial decision-making and contracting, rather than regulatory processes. The approach enables management of costs and bilateral contracting supported by a transparent arbitration regime. It recognises the competitive market pressures, outlined in chapter 2 of this submission, that underpin the transformational infrastructure investment decisions that will achieve the State's Pilbara Objectives and Australia's net zero by 2050 target.

Importantly, the existing PNAC framework has been effective in enabling the decarbonisation of Pilbara operations in a way that aligns with an individual customer's project needs. As highlighted in chapter 2 of this submission, APA sees the developments in the Pilbara being customer driven. We, therefore, see this light handed, bilateral contracting model as continuing to support the significant levels of generation and transmission investment needed in the next phase of the Pilbara's development.

Recommendation

To ensure that the PNAC and PNR remain fit for purpose and continue to support bilateral negotiation between large, sophisticated operators, we support the retention of the existing 'light regulation' negotiate-arbitrate approach to facilitate third-party access to transmission networks.

3.3. Coverage test needs to be updated to achieve State Pilbara objectives

Energy Policy WA considers that the current coverage criteria lag national best practice and is considering establishing new, dedicated coverage criteria for Pilbara networks.[9] The current coverage test determines where a network must provide third party access and whether it is subject to economic regulation (light or full) in a single test and therefore requires the Minister to consider a series of competition focused questions to determine if a network should be covered (Box 1).

Box 1: ENAC coverage test

In accordance with section 3.5 of the ENAC, the Minister must decide to cover the network if the answer is 'yes' to each of the questions in the coverage criteria currently outlined in section 3.5 of the ENAC:

a) Would access (or increased access) to the network's services promote a material increase in competition in at least one upstream or downstream market?
b) Would it be uneconomic for anyone to develop another network to provide the services?
c) Would access (or increased access) to the services not be contrary to the public interest?

As outlined in section 3.4 (below), APA supports all new transmission developments being covered (i.e. third-party access) with 'PNAC-style' light regulation being applied by default. However, careful consideration is needed regarding how any new coverage test would apply to existing assets in the Pilbara, and whether introducing the potential for 'ENAC-style' full regulation could create risks for other developments that are not safeguarded by fixed principles.

Given the competitive landscape in the Pilbara, as outlined in chapter 2, and to better align with the State's Pilbara Objectives, APA considers separation of tests used to trigger third-party access from those used to determine the form of economic regulation may provide a clearer mandate for considering the broader PET objectives highlighted in the PNAC Paper (namely, decarbonisation, Traditional Owner participation or minimising environmental and community impact).[10]

In some cases, third party access may better support the achievement of PET objectives. However, applying a competition test – which is more appropriate for determining economic regulation – introduces regulatory risks that could deter investment or prove ineffective, particularly given the market structure in the Pilbara.

[9] Energy Policy WA, Evolution of the Pilbara Electricity Access Regime Consultation Paper, 4 February 2025, p. 13
[10] Energy Policy WA, Evolution of the Pilbara Electricity Access Regime: Consultation Paper, 4 February 2025, Figure 3.

The PNAC Consultation Paper refers to Energy Ministers' Decision Regulatory Impact Statement (DRIS) on Options to Improve Gas Pipeline Regulation as a reference point for the preferred option.[11] Legislation to implement the DRIS in the NGL came into effect in March 2023, excluding Western Australia.[12]

Under the changes to the NGL and NGR, all gas pipelines are regulated as either:

- **scheme pipelines**: subject to a stronger form of regulation, which includes price regulation by the Australian Energy Regulator (AER) (full regulation), or
- **non-scheme pipelines**: subject to a lighter form of regulation (light regulation).

Since most pipelines on the east coast were already effectively subject to third-party access—either through the service provider's business model (as in APA's case) or through the introduction of Part 23 of the National Gas Rules—the change in coverage requirements had little practical impact.

However, the changes gave the AER the power the commence a review into whether to make a scheme pipeline revocation determination or a scheme pipeline determination at any time. These changes introduced significant regulatory risk to investments that already have significant commercial risk attached to them and stalled the development of new pipelines.

On 6 March 2024, the AER formally commenced a Form of Regulation review (FoRR) into whether the South West Queensland Pipeline (SWQP) should become a scheme pipeline. The AER's review introduced significant uncertainty into the SWQP's operating environment and had the effect of chilling investment in the proposed additional expansion of the East Coast Grid. APA 'paused' its proposed expansion of the East Coast Grid in response to the AER's FoRR and did not take Financial Investment Decision (FID) in February 2024 as planned.[13] Stakeholder submissions to the FoRR process supported APA's view that the FoRR process had created significant uncertainty for investment.

The circumstances in the Pilbara are markedly different from those that applied when the NGL changes were introduced elsewhere in Australia in relation to third-party access. While APA's existing uncovered networks are designed to accommodate third-party access, most electricity transmission networks in the Pilbara are not. Therefore, an appropriate mechanism is needed to manage the sovereign risk that could arise from introducing a change in coverage that aligns with the NGL changes introduced in the remainder of Australia.

In contrast, the call for significant private investment to support the State's Pilbara Objectives is the same as the investment required for the East Coast Grid expansion. APA supports further discussion and consultation on how the light and full regulatory form of regulation tests can be developed in a way that does not stall the investment required to achieve the State's Pilbara Objectives.

Recommendation

We recommend decisions on coverage that oblige networks to provide third-party access be separated from automatic light or full regulatory economic regulation, which relate to the price information and controls. APA is of the view that caution should be exercised in considering any reforms that move further towards those that have been introduced into the NGL, which have introduced significant risk to investment and have had a deleterious effect on investment as a result.

These updates would align with Energy Policy WA's recommendation that all new transmission assets be automatically covered without introducing economic regulatory costs or risks where these are unnecessary.

We look forward to further consultation on the detailed design of coverage and form of regulation process in the Pilbara.

3.4. All new transmission must be covered to support a truly common-user power system

Third party access to electricity transmission infrastructure will be critical to support the development of a truly shared common-user power system in the Pilbara. We recognise the risk to the State's Pilbara Objectives of maintaining the status quo in relation to coverage for new transmission assets, as identified in the PNAC

[11] Ibid, p.11
[12] Energy Ministers, Reform package to improve gas pipeline regulation takes effect | energy.gov.au, March 2023.
[13] APA, *Submission to South West Queensland Pipeline Form of Regulation Review Issues Paper,* March 2024, p 7

Consultation Paper.[14] APA therefore supports policy development that aims to improve the coverage processes and provide investment certainty to both transmission operators and prospective users (both generators, energy storage providers and loads).

The PNAC Consultation Paper provided two options to update the coverage process for new transmission infrastructure. We support the preferred option outlined in the paper. That is, for all new transmission networks in the Pilbara to be automatically covered under the PNAC regulatory model and therefore required to provide third-party access. This approach will best support the development of a common-user power system that aligns with the State's Pilbara Objectives.

We also support the proposal to preserve the coverage status of existing un-covered transmission assets. Any person can apply to have one of these non-covered networks covered, and this will continue to be the case.

For single user connection assets, the PNAC Consultation Paper proposes using the NEM's 'designated network asset' (DNA) model to carve out these assets from coverage. The NEM framework requires that material additions to the transmission system, including transmission lines with a total route length of 30 km or more, become part of the transmission network and have third-party access, regulated under a light-handed regime.[15] The DNA model will support the development of a common-use network in the Pilbara and minimise the environmental and land impacts from transmission assets. Models that contemplate exclusion from coverage based on capacity, voltage levels or the assets being single user are less likely to achieve the State's objectives in minimising environmental impacts and enabling decarbonisation through a robust interconnected electricity system.

Recommendation

APA agrees with Energy Policy WA's recommended approach that all new transmission networks in the Pilbara should be automatically covered under a PNAC-style of regulation. A stable and predictable regulatory environment will be crucial in fostering confidence in the energy sector, unlocking the capital necessary to build the transmission and generation projects required for a sustainable energy future in the Pilbara.

We also support the DNA model being further developed to provide certainty for connection assets.

3.5. Access across multiple networks requires further consideration

APA welcomes Energy Policy WA's initiative in seeking to resolve issues associated with access across multiple networks. Resolution of how access across multiple networks is managed is ideally resolved through a centralised approach with input from relevant stakeholders.

The current PNAC framework provides access to multiple networks using a bilateral contracting approach. Regarding transfer of power across networks, the NSP-to-NSP agreements may determine maximum quantities of allowable flow, leaving each host NSP free to on sell capacity in each other's network, and to offer remaining capacity on its own network to other NSPs and Connection Applicants. Alternatively, customers can contract with each NSP based on the capacity they require on each network.

An advantage of the current approach is that customers who are not seeking access to some parts of the interconnected system are not charged for this access. The current mechanism therefore avoids complexities that are necessarily introduced when wheeling rights need to be reflected throughout the interconnected networks, such as deep connection costs.

APA agrees with Energy Policy WA's assessment that as the number and size of interconnected networks increases, there may be advantages in clarifying and standardising the terms and conditions that support access across multiple networks. This is particularly the case for access that relates to a point of connection on network other than the host-network.

To date, APA and Horizon Power have chosen not to enter into any NSP-NSP agreements, preferring instead for APA's generation business to contract separately with Horizon Power via a connection agreement. For example, APA DEWAP's generation business is a party to a connection agreement with Horizon Power Pilbara

[14] Energy Policy WA, Evolution of the Pilbara Electricity Access Regime Consultation Paper, 4 February 2025, p.12
[15] AEMC, 'Connection to dedicated connection assets' webpage, Final Rule change, available at: https://www.aemc.gov.au/rule-changes/connection-dedicated-connection-assets

Network to facilitate access to the Horizon Power Network as part of its bundled service offerings to its customers.

APA's expectation is that customer flexibility and transparency will be at the forefront of any interconnection arrangements. In line with the current framework, APA envisages that NSPs will enter into interconnection agreements with each other to facilitate the transmission of customer loads between networks (unless the customer opts to enter a direct contractual arrangement with each NSP).

Similar to the arrangements for connection agreements, interconnection agreements should be subject to the negotiate-arbitrate model and should maintain the existing contractual model whereby the costs of wheeling power (including any third-party items such as ISO costs) through another's interconnected network are charged on a pass-through basis to each customer.

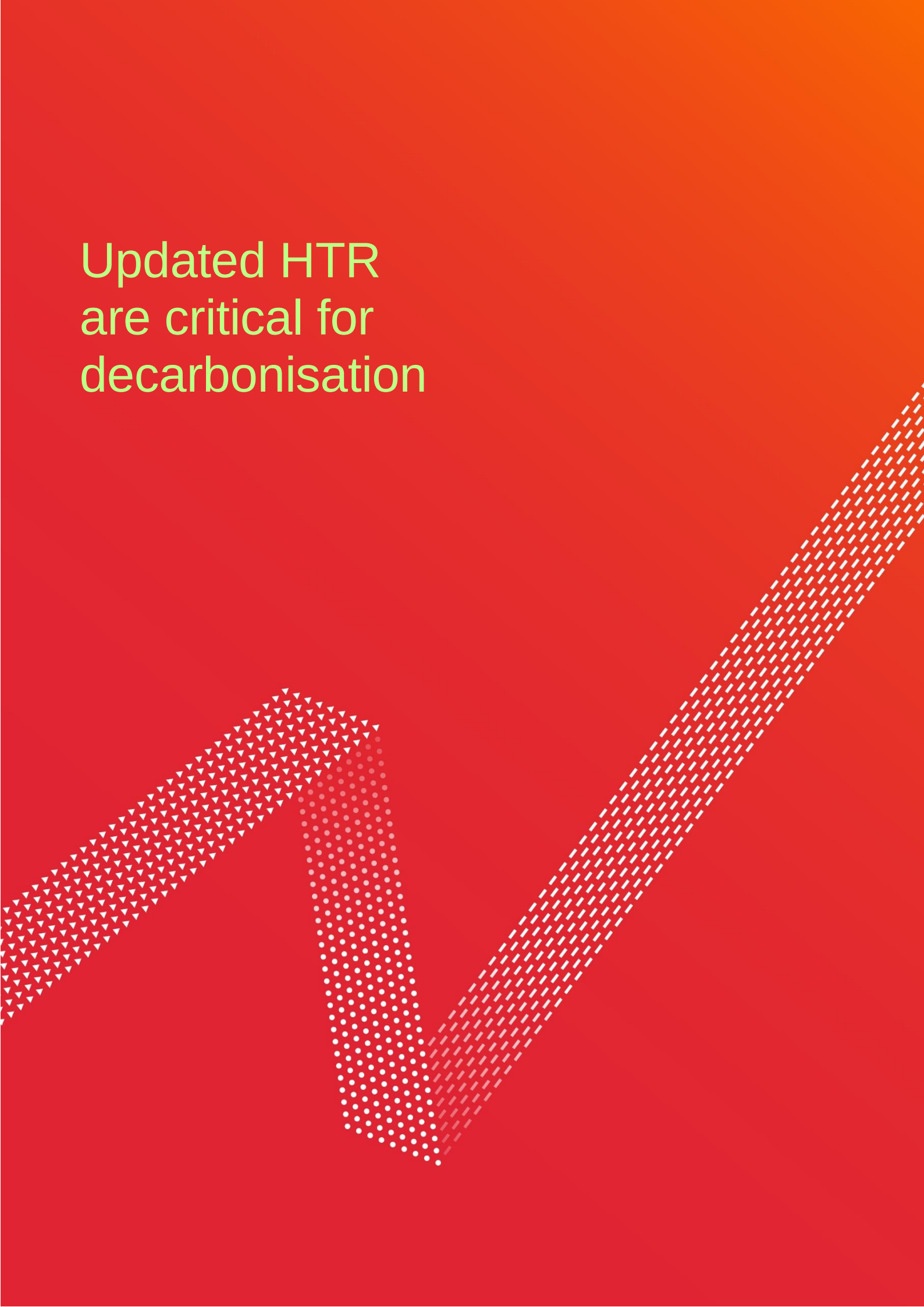
As a next step, APA considers it will be beneficial for Energy Policy WA to lead, through a series of working group discussions, the development of both a model connection agreement between NSPs and users, and common terms for multi-network access. Importantly, this process will need to focus on aligning liability and risk allocation up and down-stream of the interconnection points, disconnection and suspension rights, and management of adverse impacts. Exemptions across multi-network access services should also be discussed in the working group.

Recommendation

APA recommends Energy Policy WA conduct further discussions with relevant stakeholders to identify the key issues that need to be addressed in a requirement to offer a multi-network access service and to develop model connection and interconnection agreement terms.

In particular, further discussion on liability and risk allocation up and down-stream of the interconnection point, disconnection and suspension rights, adverse impacts, and management of exemptions across multi-network access services need to be resolved.

Updated HTR are critical for decarbonisation



4. Updated HTR are critical for decarbonisation

4.1. HTR must be updated to be fit-for-purpose

APA firmly believes that once the PNR technical provisions – as captured in the HTR – are appropriately drafted and targeted, connections that support decarbonisation (whilst maintaining power system security) will be accelerated. Clarification of the technical provisions will also enable both ISO and NSP functions to be streamlined, setting up the Pilbara to serve as a model for efficiently integrating new technologies into the generation mix.

The current HTR drafting is based on historic versions of the Horizon Power Technical Rules and the Western Power Technical Rules. Specifically, the Horizon Power Technical Rules and the Western Power Technical Rules were designed to accommodate:

- A more diverse customer base than applies in the Pilbara.
- A high volume of connection applications, particularly at lower voltages, where more prescriptive requirements are appropriate. In contrast, new connections in the Pilbara being overseen by the ISO are infrequent.
- Implementation in densely populated areas where there is a higher risk of interaction between developments, the public, and a large contractor base responsible for installation and maintenance. As a result, some technical requirements are intentionally inflexible to reduce these risks—risks that are significantly lower in the Pilbara and may be suitably catered for in the design.

The obligations on generating units within the historic Horizon Power Technical Rules and the Western Power Technical Rules have evolved from traditional subcritical steam powered synchronous generating units. This has resulted in prescriptive obligations based upon that technology, rather than defining performance requirements that are required to maintain power system security from a variety of technologies. The Rules have been modified over time – and these changes reflected in the HTR – to consider some aspects of induction generators, and inverter coupled systems. However, despite these changes being made with the correct intentions, the clauses as written can create unnecessary administrative hurdles to connection.

The current PNR and HTR drafting also:

- Makes technology assumptions that provided an appropriate simplification for power systems prior to the emergence of inverter-based generation and energy storage systems and therefore do not adequately or expediently facilitate the connection of these technologies that are critical to achieving Australia's net zero by 2050 target.
- Does not adequately contemplate or address embedded network arrangements including those supporting generation hubs and distribution voltage systems. Embedded network arrangements have emerged as requiring regulation updated in both the WEM and NEM and are already a standard feature of the Pilbara's systems. In particular, large customer sites – whether isolated or grid-connected – often include sophisticated, extensive distribution level systems with embedded generation. Similarly, generation hubs that connect within a site at distribution voltages are emerging as decarbonisation efforts progress.

APA appreciates the work of Energy Policy WA, including through the Evolution of the Pilbara Network Rules Working Group, to identify gaps and issues in the HTR. Addressing these updates—along with other key technical areas that remain incomplete or unclear for inverter-coupled generation and storage facilities—is essential to reducing growing delays in the connection process and avoiding unnecessary, resource-intensive conflicts between participants and the ISO.

APA is of the view that the update of the HTR should be undertaken by first clearly defining the power system operating parameters for steady-state and dynamic conditions. This sets the foundation for defining the obligations of generators and expectations for consumers. APA is also of the view that functionality and performance obligations of generating facilities should be, as far as practicable, technology agnostic with provisions for the different technologies being used. Providing context and guidance (for example, in normative sections) on the intended functionality and performance will allow OEMs and connecting applicants to develop facilities that support de-carbonisation and power system security in a timely and cost effective manner.

With clear, appropriately focused technical provisions, the resource levels required by connection applicants, NSPs and the ISO will be reduced. Disagreements on good electricity industry practice will be reduced as the

ISO's compliance monitoring role will be supported by rules that reflect good electricity industry practice and are clear. A robust, fit-for-purpose set of technical rules will also lay the groundwork for new chapters addressing NSP-NSP technical provisions.

Recommendation

APA is concerned the HTR provisions will stall the connection of new projects, despite these being in demand, and deter participation in an interconnected system. The current provisions need to be updated to reflect the Pilbara context and to enable the expedient connection of new renewable and battery energy storage projects.

Given the importance of fit for purpose HTR, we recommend that the current reform process prioritise updates to the HTR as an urgent deliverable above all other proposed reforms.

4.2. Application of technical regulation must support the State's Pilbara Objectives

APA appreciates Energy Policy WA's proposal to exclude self-contained networks from complying with the HTR on the basis that these systems are not interconnected with the NWIS and the option for these networks to demonstrate compliance at the interconnection point to the NWIS[16]. However, we do not support the proposal to apply the updated HTR to networks providing third-party services on isolated networks, while excluding those networks operated by vertically integrated entities that serve their own load and generation.

APA owns and operates transmission networks in the Pilbara that are not covered by the HTR and that provide third-party services. These networks have been designed to meet customer requirements as agreed through bilateral contracts, including technical standards that meet unique customer needs. As highlighted in section 3.1 of this submission, these conditions need to be grandfathered, and further discussions held on the ability to transition to an updated regulatory framework.

For future networks, exclusion of new vertically integrated self-serviced provider developments without offering the same conditions for third-party service providers outside of the NWIS will create an uneven competitive environment and potentially detract from achievement of the State's Pilbara Objectives.

Ultimately, APA considers having a single set of rules applicable to all interconnected networks as critical for the efficient operation of a truly interconnected Pilbara system. However, as highlighted above, Energy Policy WA must focus on updating the existing HTR with priority to ensure they are inclusive of all types of power systems in the Pilbara region and are sufficiently clear to enable the efficient and safe connection of renewable generation in the first instance.

Recommendation

Third-party service providers and vertically integrated self-servicing providers should be afforded the same flexibility to design power solutions that meet the Pilbara-specific needs to enable a fair and competitively neutral market in the supply of power that supports outcomes aligned to the State's Pilbara Objectives.

[16] Refer to subproposal 22.5 and proposal 24 in the PNR Consultation Paper.

Future of the ISO

5. Future of the ISO

5.1. The ISO needs to remain cost effective, nimble and technically focused

APA continues to see the ISO as having a critical role in the Pilbara. To build trust with industry, it is essential the ISO control desk operations are brought in-house, and that the ISO demonstrates its effectiveness as a pragmatic facilitator in the connection process.

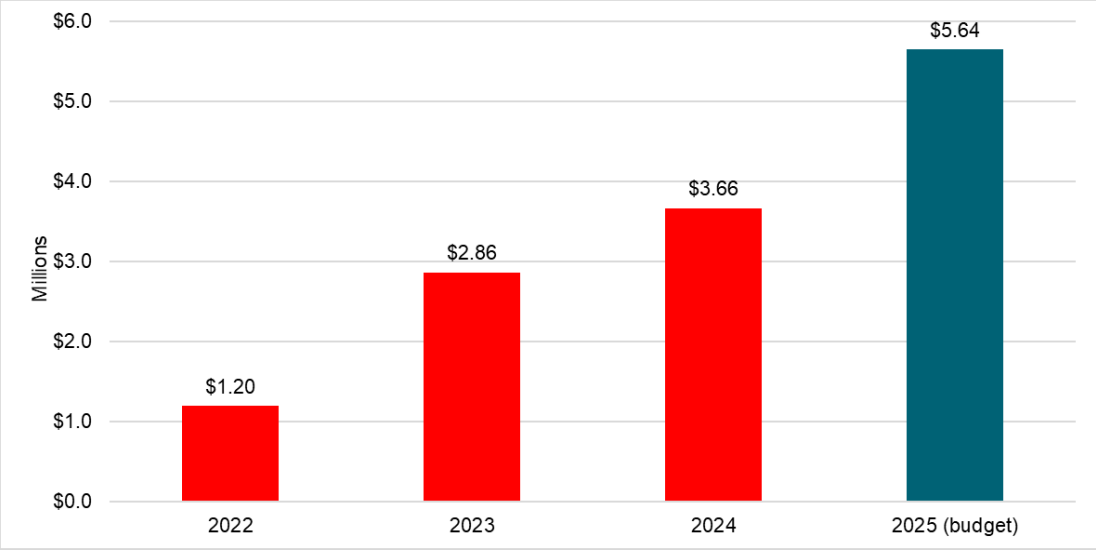
During the period when common-user infrastructure is being developed and constructed, and with consideration to the competitive pressures that will persist past 2051 in the Pilbara, there is limited need for many of the expanded or new functions for the ISO proposed in the Consultation Papers. The direct and indirect costs to industry associated with these new functions will be significant and the benefits are unclear.

The Pilbara ISOCo, the entity that undertakes ISO functions, was registered in June 2021. On 1 July 2021, the 'light handed' framework that applies in the Pilbara commenced for a Transitional Period.[17] And, on 1 July 2023, the Transitional Period ended and full commencement of the PNR commenced, including all ISO responsibilities.

The ISO costs have increased over the past three years as it commenced performance of its statutory functions. In FY2022, expenses were $1.195 million.[18] Expenses increased to $2.86 million in FY2023[19] and were $3.66 million in FY2024.[20] In FY2025 the budget, following a mid-year budget adjustment, is expected to be $5.64 million.[21] The change in ISO expenses is summarised in Figure7 below.

The ISO's fees are currently shared equally by the registered NSPs in the NWIS (APA, Horizon Power and Rio Tinto), and are structured under the Rules to allow full recovery of service-related expenses. ISO expenses are passed through to customers on the NWIS.

Figure 7: ISO expenses (FY2022 to FY2024) and budget (FY2025)



[17] During the Transitional Period, the NWIS operations continued largely unchanged and the three Registered NSPs (Alinta Energy, Horizon Power and Rio Tinto) worked collaboratively to manage the NWIS, with minimal resort to directions from the ISO. During this period, no ESS or energy balancing mechanism existed in the NWIS.
[18] Pilbara ISOCo Ltd, 2021-22 Annual Report, p. 12. Available at: https://pilbaraisoco.com.au/wp-content/uploads/2024/11/Pilbara-ISOCo-Ltd-2021-22-Annual-Report.pdf
[19] Pilbara ISOCo Ltd, 2022-23 Annual Report, p. 28. Available at: https://pilbaraisoco.com.au/wp-content/uploads/2024/11/Pilbara-ISOCo-Ltd-2022-23-Annual-Report.pdf
[20] Pilbara ISOCo Ltd, 2023-24 Annual Report, p. 28. Available at: https://pilbaraisoco.com.au/wp-content/uploads/2024/11/Pilbara-ISOCo-Ltd-2023-24-Annual-Report.pdf
[21] Pilbara ISOCo Ltd, Mid-Year Budget Review 2024-25, p. 6. Available at: Pilbara-ISOCo-Mid-year-Budget-Review-2024-25-Final.pdf

In 2019, the Public Utilities Office (a predecessor to Energy Policy WA) consulted on the ISO model to be adopted in the Pilbara. Three options were considered: an administrative ISO model, an operating ISO model and a full market operator model similar to the WEM and the NEM.[22]

At the time, AEMO was invited to provide ISO services under the models. AEMO estimated the setup costs for a full market operator model to be in the order of $50 million and annual operating cost to around $8 million per year.[23]

Throughout the Consultation Papers, Energy Policy WA proposes a range of new and expanded functions for the ISO, in addition to its existing functions. APA has summarised these in Box 2. While these changed functions do not go as far as implementing the full market operator model contemplated in 2019, APA is concerned that the costs associated with these new functions will be significant and approach the $50 million estimate from AEMO under the full market operator model.

Energy Policy WA has proposed that ISO costs be recovered from only participants connected the NWIS. It is appropriate for fees to be recovered from all participants in the Pilbara where the proportion of costs recovered from the NWIS versus non-NWIS participants are commensurate to the functions provided to those participants. Regardless of cost allocations, it is important that all costs are allocated to connecting parties on $/MW-capacity basis, rather than a $/MWh basis. This will help avoid distorting incentives, where customers who use shared transmission networks only intermittently still benefit from ISO oversight without contributing to an appropriate proportionate share of the costs.

Box 2: New and expanded or enhanced ISO functions

Expanded or enhanced functions:

- Outages
- Connections and interconnection processes (modelling, assessment)
- Commissioning
- Dispatch and scheduling (currently only during contingency events)
- Monitoring compliance with the PNR and HTR (includes enhanced powers)
- Long term forecasting/planning (coverage extended to the entire Pilbara region)

New functions:

- Managing access queues
- Monitoring or determining/approving access contract terms
- Capacity certification and adequacy oversight
- Backstop capacity procurement powers
- Real-time management of unserved energy and load shedding
- Load shedding list development
- Day-ahead market mechanisms and tools

To accelerate decarbonisation of the Pilbara through a common-use, interconnected transmission system, the ISO needs to remain cost effective, nimble and technically focused.

Increased regulatory costs and delays due to resource constraints caused by the new and expanded functions risk creating a disparity between NWIS and non-interconnected solutions—potentially discouraging investment in projects aligned with the State's Pilbara objectives. Further, a shift in focus by the ISO away from core balancing and technical oversight functions are likely to exasperate these risk factors.

To support the State's Pilbara objectives, the ISO role during the period while new common-user transmission infrastructure is being developed should include:

- Operating an independent real-time power system monitoring control desk (without outsourcing).
- Coordinating responses to contingencies and pre-contingency threats including activating protocols and, if required, issuing directions under those protocols.
- An expanded role in outage coordination, supported by stronger compliance enforcement powers.
- Incident response and investigation.
- Managing balancing energy procurement and settlement.

[22] Department of Treasury, Public Utilities Office, Regulatory framework for the Pilbara electricity networks: System operations arrangements, 15 March 2019, p. 31. Available at: Regulatory framework for the Pilbara electricity networks: System operations arrangements
[23] Department of Treasury, Public Utilities Office, Regulatory framework for the Pilbara electricity networks: System operations arrangements, 15 March 2019, p. 31. Available at: Regulatory framework for the Pilbara electricity networks: System operations arrangements

- Managing essential system services.
- Oversight of technical matters outlined in the Harmonised Technical Rules (HTR) where there is a high risk of negative consequences for other parties due to power system connectivity, supported by an independent Technical Expert Panel.

While APA does not consider the introduction of most of the proposed new and expanded functions for the ISO would contribute to the State's Pilbara objectives, there is value in clarifying the ISO's role in overseeing the access and connection process, especially in relation to vertically integrated NSPs. Currently, the PNR lacks adequate definition in this area, leading to unnecessary costs for connection applicants and extended timelines for issuing connection offers.

Power system connectivity carries a risk of significant negative externalities, where parties that are not directly involved in an incident are negatively and uncontrollably affected by other parties' behaviour on the network. APA sees the ISO's role in mitigating these risks through oversight of the connections process and ongoing monitoring of compliance with the HTR as crucial. However, to accelerate decarbonisation and the interconnection of transmission networks, the ISO's role in this area must be limited to where the is a high risk of adverse consequences to other parties due to power system connectivity. Technical designs that achieve the purpose of the PNR and HTR and do not pose a risk to other connected parties should be managed by the NSP through the exemption's framework (as currently applies).

As discussed in chapter 4 of this submission, updates to the HTR are urgent. Once the HTR have been updated to focus on the power system requirements rather than technology specific factors, the ISO's role in monitoring compliance with these technical rules and overseeing connections, when appropriate, will be easier.

Finally, we recommend that Energy Policy WA consider establishing a Technical Expert Panel to assist in resolving disputes between the ISO and Rule participants. Similar panels exist in both the WEM and NEM. In contrast, under the current Pilbara framework, the escalation pathway is either unclear—such as in cases where a vertically integrated NSP is seeking connection—or directed to the ERA and the Electricity Review Board, which are more suited to addressing commercial and economic issues than technical matters.

5.2. Vertical integration can be appropriately managed to mitigate concerns

The Consultation Papers propose expanding existing ISO functions as a means of mitigating risks associated with *potential* anti-competitive conduct by vertically integrated entities.

APA supports reforms that enable a transparent, competitively neutral market in the supply of power in the Pilbara.

As a vertically integrated operator in the Pilbara, we are committed to adhering to all legal and functional separation obligations across our gas and electricity transmission operations. Ensuring compliance with ringfencing provision is crucial and serves as the foundation for conducting our business effectively. Box 3 below outlines the key features of our compliance strategy.

Box 3: APA's ringfencing compliance strategy

APA undertakes a wide range of activities to ensure compliance with its various ringfencing obligations. These activities form part of APA's wider Compliance and Risk Management framework

Our compliance strategy for ringfencing obligations includes:

- Regular internal communication and updates on ringfencing matters.
- Internal and external audit processes.
- Ensuring legal separation where applicable (e.g. gas operations)
- Where applicable, maintaining staff separation for marketing activities and execution of key regulatory functions.
- Utilising IT systems specifically designed to manage information separation.
- Actively monitoring the regulatory environment for updates to ringfencing requirements.

APA also acknowledges the importance of culture in fostering strong regulatory practices. Competition principles and ringfencing training is a mandatory requirement for large parts of our business.

APA has reservation about the proposal to move sensitive NSP functions[24] to the ISO as a means of addressing concerns about vertical integration. We are concerned this will:

- Increase the costs to customers from connection of renewable generation as it results in the duplication of existing NSP technical functions that will still be required to manage network risks and oversee network technical requirements.
- Delay the connection process commercial agreements between the NSPs and connection applicants would need to be negotiated with the ISO, adding a layer of complexity with high potential for unclear boundaries between roles and responsibilities.
- Deter development of interconnected solutions where generation, transmission and load must be developed concurrently for achievement of the State's Pilbara Objectives.

While APA appreciates the efforts made in the PNAC Consultation Paper to articulate concerns raised in other markets, which have led to regulatory intervention in the power supply chain, it is important to note that these interventions – particularly in the European Union – are based on market conditions and incentives that differ significantly from those in the Pilbara power supply market.

Power supply is a critical input to the mining, mineral processing and oil and gas industries that drive economic growth in Western Australia. Efficiency in this supply chain therefore drives overall benefits to Western Australians. As described in chapter 2 of this submission, the power supply requirements are driven by large customer requirements, who are sophisticated with significant buying power (including on a project-by-project basis). The customers are themselves vertically integrated from a power supply perspective. The market operates from a power supply perspective with customers highly attuned to competitive pressures that ultimately drive down their supply chain costs and maximise their global competitiveness.

In short, while other markets – where customer buying power is not concentrated – rely on regulatory intervention to induce competition, protect consumers and support the efficient supply of electricity, the Pilbara's competitive dynamics are driven by large customers. As a result, regulatory involvement in the power supply chain is less necessary and may, perversely, lead to increased costs and less efficient outcomes for customers than allowing the existing competitive market pressures manage risks.

Currently, the PNAC focuses on regulating vertically integrated covered NSPs. The PNAC sets out the ringfencing policy objectives, core standards that apply to all covered networks and provides a mechanism for each NSP to adopt its own ringfencing rules to supplement these core standards. The advantage of the approach is it enables differentiated ringfencing rules between NSPs to cater for their unique circumstances – including the extent of vertical integration – with the ERA reviewing and approving all ringfencing rules.

With the requirement for all new transmission developments to be covered, it is reasonable to apply the same approach across all service providers to ensure a competitively neutral environment. To this end, we support the further consideration of revised arrangements that strengthen the ringfencing provisions applying to all new transmission developments. This could reasonably include the introduction of legal and staff separation for new transmission assets at an appropriate time.

The current PNAC approach that allows each NSP to develop ringfencing rules, with the ERA approving rules, will likely remain appropriate given the unique circumstances of each vertically integrated service providers.

In addition to the concerns highlighted above, APA is concerned that transferring sensitive NSP functions to the ISO could lead to a regulatory framework with inadequate governance controls. Certainly, it is not appropriate for the ISO to take on the connection modelling, assessment and approval functions and determine or approve access contract terms. To the extent that monitoring of access contract terms is required to manage competition concerns, the ERA is the regulator with the necessary skillset.

Recommendations

APA has practical experience in demonstrating that vertically integrated functions can be effectively managed through appropriately regulated ringfencing arrangements, including both legal and staff separation. We have recently published external audit reports outlining how we meet our obligations in the specific jurisdictions in which APA operates.[25]

[24] Energy Policy WA, Evolution of the Pilbara Electricity Access Regime: Consultation Paper, 4 February 2025, Box 6, p. 32.
[25] These audit reports can be found on our website at https://www.apa.com.au/operations-and-projects/pilbara-pipeline-system-goldfields-gas-pipeline-and-northern-goldfields-interconnect-deed-poll

We consider that similar arrangements could be implemented for all new transmission infrastructure in the Pilbara, with:

- Grandfathering or the evolution of arrangements for existing transmission assets (refer to section 3.1 of our submission).
- Introduction of legal and staff separation for new transmission assets at an appropriate time.

Given the relatively small number of customers and energy providers in the Pilbara, the prevalence of vertical integration among both and the critical role of collaboration in achieving the State Government's objectives, care must be taken when proposing regulation that manages vertical integration.

APA supports appropriately balanced ringfencing measures that are fit-for-purpose. A competitively neutral environment in the Pilbara needs to consider the competition offered from continued self-supply by vertically integrated self-suppliers. It is also important to consider potential unintended consequences that moving sensitive functions to the ISO may have on the ability to achieve the State's Pilbara Objectives.

Fit-for-purpose energy trading and balancing mechanisms

6. Fit-for-purpose energy trading and balancing mechanisms

6.1. Introduction of a day-ahead market is premature

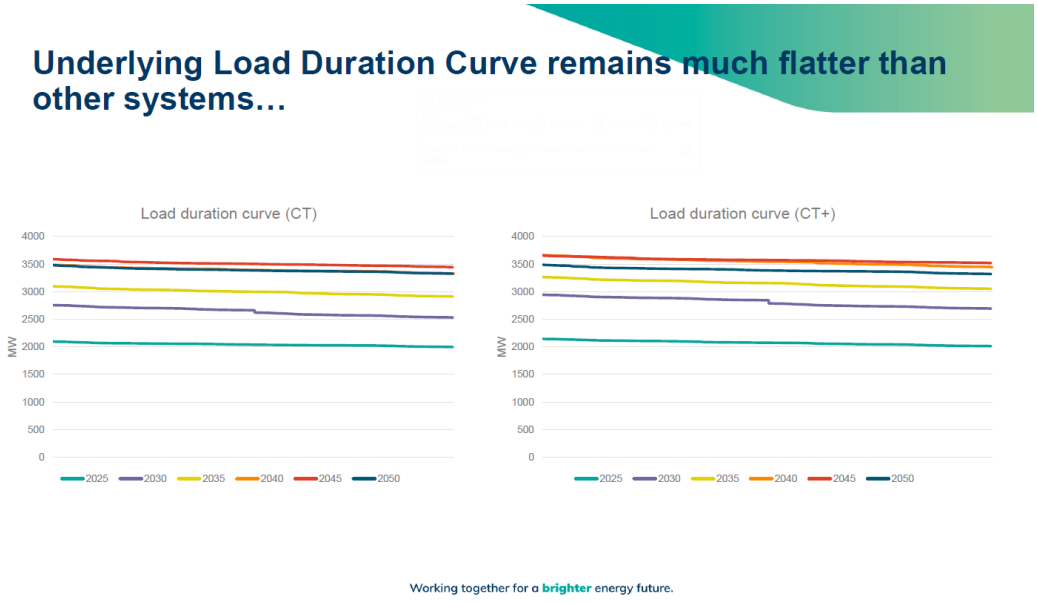
APA supports the development of market mechanisms that evolve at appropriate stages to facilitate improved utilisation of generation, storage and network infrastructure and penetration of renewables in favourable locations across the Pilbara. The proposed day-ahead market is intended as an alternate trading mechanism, allowing participants to buy and sell energy, and would serve to supplement existing bilateral contracts.[26] Whilst we agree that the current Energy Balancing and Settlement (EBAS) regime could be improved, we do not agree that the Pilbara energy system is sufficiently interconnected or mature to warrant introducing a day-ahead-market.

The costs to the ISO and participants in establishing systems and processes to effectively run and participate in a day-ahead market in the Pilbara are unlikely to be outweighed by benefits in the short to medium term.

Relevantly, generation solutions in the Pilbara are typically developed hand-in-hand with specific customer load requirements in mind with neither party having appetite to have mismatched outcomes to provide excess quantities to the day-ahead market. The primary reason for this is that for an investment in new load infrastructure to be viable, a reliable and secure power supply solution is a leading consideration.

As outlined in Energy Policy WA's modelling, loads in the Pilbara are relatively 'flat' (Figure). A consequence of this is that benefits associated with non-coinciding load profiles are less prominent than in other markets. Any excess uncontracted energy that could benefit from day-ahead trading markets are less likely to find large volumes of unsupplied load. APA is doubtful that the volume of energy likely to be traded, particularly between a small number of potential market participants warrants the significant costs associated with establishing and ongoing management of a day-ahead market, costs which are likely to passed to consumers. It is also unlikely that the depth of the market will be sufficient to allow any meaningful transactions to take place.

Figure 8: Energy Policy WA modelling indicting underling load duration curve is flatter than other systems



Source: Energy Policy WA, PAC-2024_06_20 Combined meeting papers, Pilbara Advisory Committee: EPNR Project Update, 20 June 2024, slide 15.

The ability to trade electricity is necessarily limited by the extent to which transmission systems are interconnected, which in turn determines the size of the generator and customer that might participate in a centralised market mechanism. Any interconnection constraints also need to be considered.

[26] Energy Policy WA, Evolution of the Pilbara Electricity Access Regime Consultation Paper, 4 February 2025, p. 23.

Participation in a day-ahead market necessitates regulatory compliance costs and adds a layer of commercial complexity. The introduction of a day-ahead market could have the unintended consequence of reducing participation from both new power suppliers and customers on the interconnected transmission system. Further, establishing a market in one area—such as the NWIS—while excluding other large systems could exasperate already uneven distribution of regulatory costs,[27] potentially disincentivising investment in the NWIS by both customers and power solution providers.

APA is also concerned about the affect the introduction of a day-ahead market mechanism may have on existing contractual arrangements and miscellaneous licences under the Mining Act that have been granted with the purpose of the power being supplied for mining purposes. As outlined in Box 4 below, further clarity and regulatory certainty is needed on how licence obligations may be affected before the full costs (and benefits) associated with any centralised market in the Pilbara that supplies any load other than mining loads could work.

Recommendation

As highlighted in section 2.4 of this submission, there will be a critical turning point, after common-use transmission infrastructure is developed, when it may be appropriate to revisit available trading mechanism to optimise the decarbonisation pathway.

We recommend that the State Government not proceed with a day-ahead market at this time. We request further investigations in the effect of any such market on existing land access that is enabled trough the Mining Act and suggest Energy Policy WA schedule a review at some point in the future (e.g. five or ten years') to evaluate the maturity of the market and the level of transmission interconnection.

Box 4: Land access considerations

Before a day-ahead market mechanism commences, consideration will need to be given to the land access arrangements that currently exist in the Pilbara region.

Currently, a significant number of operations in the Pilbara are based on land that is held under pastoral leases (or other types of Crown land). Pastoral leases are leases over Crown land which gives the lessee right to graze authorised livestock on the natural vegetation.[28] Mining companies often purchase pastoral leases to provide them with the advantage of freely exploring and using the land without restriction, subject to the conditions of its mining tenements and environmental approvals and any Native Title agreement which apply to their mining activities. Other Crown leases can be used to secure additional tenure for the construction and operation of supporting infrastructure (e.g. power stations).

Under the Mining Act 1978, proponents can apply to have a miscellaneous license granted by the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) over pastoral leases (the two tenures coexisting), which allows the development of infrastructure on the provision that it is directly connected with mining. For example, generation stations in the Pilbara which are directly connected to a mining site are often developed on land under a miscellaneous license. This type of land access is heavily relied upon in the Pilbara, due to low relative cost and streamlined approvals compared to the other options.

It is not clear how DEMIRS would consider a power station producing energy held under a miscellaneous licence injecting tradeable power into a common-use grid, where the electricity generated may be sold to a customer not directly involved in mining. This would conflict with the original land-use purpose of the licence.

Further clarity is needed on whether:

- DEMIRS would require modifications to existing Miscellaneous Licenses to permit market participation
- Power stations under these licenses could be restricted from trading electricity with non-mining customers
- Transmission lines held under miscellaneous licences could be restricted from supplying energy to non-mining customers
- Alternative licensing pathways or land tenure structures would be required to support the market

As the Pilbara region moves towards becoming a more interconnected system addressing these land access and regulatory considerations will be critical to ensuring a clear and efficient transition.

[27] The ISO costs are currently shared between the three NSPs in the NWIS and passed through to customers, an expense that does not occur elsewhere in the Pilbara.
[28] Government of Western Australia, *Pastoral land and leases*, https://www.wa.gov.au/organisation/department-of-planning-lands-and-heritage/pastoral-land-and-leases

6.2. The EBAS regime, with amendments, remains fit-for-purpose

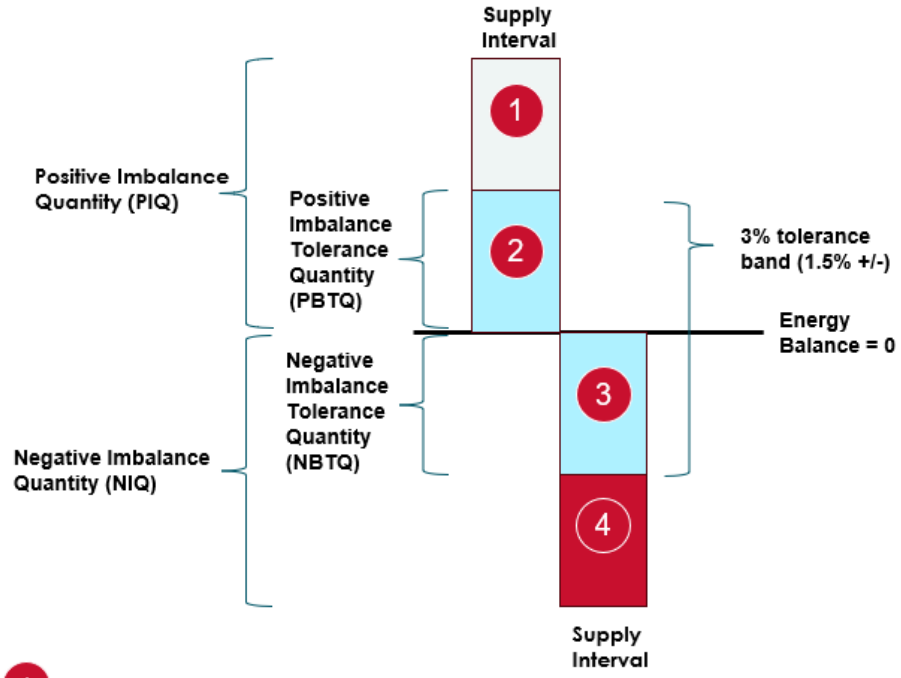
APA supports maintaining the existing Energy Balancing and Settlement (EBAS) regime and fast-tracking rule amendments that reflect learnings since the regime commenced on 1 July 2023 (less than two years ago).

The EBAS regime requires balancing nominees to nominate quantities of power flows at the Balancing Point on covered and interconnected networks for each trading interval. As Energy Policy WA describes in the PNR Consultation Paper, the PNR 169(1) states that a Balancing Nominee must ensure that the imbalance for each trading interval, as well as in real-time, is as close to zero as reasonably practicable.[29]

The ISO calculates the "imbalance" for each trading interval using its EBAS Engine. The EBAS Engine essentially sums the relevant balancing points on the each NSP's network and points of interconnection with other networks. The ISO then facilitates payments associated with imbalances. These payments can be positive or negative but should, excluding Frequence Control Essential System Services (FCESS) which we consider needs adjustment, result in net zero outcomes from an ISO perspective (i.e. no surplus or deficit accumulated due to the EBAS). Penalty pricing applies to energy imbalances outside of a tolerance range (Figure9) to incentivise balanced outcomes.

The EBAS regime essentially enables compensation for small 'imbalances' in energy delivery that are created due to the nature of load following synchronous generation on an interconnected power system, where occasionally generation will vary from that required to serve the volumes contacted.

Figure 9: Energy balancing calculation



1. Energy imbalance **over PBTQ**, no payment for this portion of energy.
2. Energy imbalance **within PBTQ**, receive Administered Price for this portion of energy.
3. Energy imbalance **within NBTQ**, pay Administered Price for this portion of energy.
4. Energy imbalance **over NBTQ**, pay Administered Penalty Price for this portion of energy.

One of the key benefits being realised from the introduction of the EBAS regime is that imbalances are efficiently resolved between connected parties in a commercially simple manner. The involvement of the ISO as an independent entity is a positive aspect as it brings neutrality for these lower volume, but critical transactions.

[29] Energy Policy WA, Evolution of the Pilbara Network Rules: Consultation Paper, 4 February 2025, p. 24.

The EBAS process itself operates with a high degree of efficiency. Meter data is provided by Balancing Nominators to the ISO, a step which has now largely been automated, streamlining data handling and reducing the potential for errors. Additionally, the payment mechanism in place is efficient, contributing to the overall effectiveness of the system.

The process is conceptually and administratively simple and therefore suited to a Pilbara market context where simplicity in regulatory and market frameworks is valued.

As the Pilbara systems evolve, APA considers the EBAS regime will continue to be a valuable mechanism through which energy imbalances associated with load following can be managed. Renewable generation and storage in the Pilbara is typically inverter-based technology. These systems can much more readily respond to avoid the creation of imbalances, however these systems – where non-firming inverter technology is used – also give rise to a new need for firming generation sources.

APA considers the EBAS regime could be further simplified to reduce regulatory costs and the level of commercial complexity associated with balancing by:

- Addressing limits on surplus energy imbalances that result from interaction between balancing and FCESS; and
- Allowing for Balancing Points to be defined as distinct from Connection Points to enable the development of generation and energy storage hubs.

Addressing limits on surplus energy imbalances

At present, FCESS and imbalance quantities are indistinguishable from one another. However, FCESS providers do not have to pay for energy received as a consequence of other parties being a positive imbalance. This has resulted in Balancing Nominees not being fairly compensated for delivery of energy within the allowed tolerance ranges.

A simplified approach would treat FCESS providers the same as other Balancing Nominees for the purposes of the EBAS within the tolerance ranges. Under this approach, the EBAS Engine would always result in net zero outcomes from an ISO perspective under non-penalty circumstances, increasing the transparency of the EBAS Engine in a way that builds confidence in the process. FCESS service remains as a contracted service that is provided on a take or pay basis, consistent with the current arrangement.

In the Pilbara, transparency is highly valued. APA also considers the EBAS regime is now sufficiently mature in terms of the supply of data and financial settlements to warrant the introduction of independent periodic audits. The introduction of more formalised audit and review requirements combined with the simplification of FCESS and imbalance mechanisms would enhance the system's credibility and transparency. These measures would help build trust in the outcomes, which are currently being managed and smoothed by the ISO.

Separation of Balancing Points from Connection Points

Under the PNAC and PNR, Connection Points are defined the location on a covered network where entry and exit service contracts apply. The PNR and HTR also treats the Connection Point as the location for conducting technical assessments of new facility connections.

In contrast, Balancing Points serve a market-like function under the EBAS regime, tracking energy imbalances relative to nominated volumes and allowing for financial reconciliation power flows. Balancing points are not necessarily tied to commercial service contracts or technical power system assessments. However, balancing points are currently defined as being at the Connection Point (with some exceptions for loads).

This creates challenges for customers with large on-site generation and storage and for power supply providers developing generation hubs, as they must define the Balancing Point and Connection Point at the same location.[30] While it is technically appropriate to define the Connection Point at the physical site where facilities connect to the network, doing the same for the Balancing Point is overly complex under the EBAS. Particularly where bilateral arrangements require flexibility to optimise supply across multiple, co-located facilities.

[30] It is noted that Connection Point Compliance (**CPC**) provisions provide an exception to the Connection Point requirements and are reserved for situations where technical compliance behind the CPC is not feasible. APA has not fully investigated the interaction of CPC provision with the requirements for specifying a Balancing Point.

APA recommends updating the PNR to allow Balancing Points to be defined at a location other than the Connection Point. This point should be a unique location on the interconnected power system— behind which a customer's embedded network or a provider's generation hub sits. This change would simplify and improve the transparency of managing energy imbalances that require financial reconciliation.

This approach maintains the technical integrity by keeping the Connection Point at a physical interface between the new facility and the system, while enabling commercial arrangements to be managed in a way that aligns with bilateral contracts and individual customer requirements.

Ultimately, updating the Balancing Point definition to accommodate customer sites and generation hubs would offer a practical, transparent solution that supports customised power solutions and accelerates decarbonisation through the integration of generation and battery energy storage.

Recommendation

The EBAS regime is maturing and delivers benefits in a Pilbara context. With amendments, it will continue to facilitate the decarbonisation of the Pilbara in a way that aligns with customers' needs and provides for flexibility in the way generation and load is managed behind identified points on the network.

A key benefit of the EBAS regime is its administrative simplicity and cost effectiveness. For an interconnected network to be supported, the mechanism through which imbalances in power flows are managed must necessarily remain simple and transparent so as to not deter participation.

We recommend Energy Policy WA proceed with detailed drafting that amends the EBAS to:

- Addressing limits on surplus energy imbalances that result from interaction between balancing and FCESS; and
- Allowing for Balancing Points to be defined as distinct from Connection Points to enable the development of generation and energy storage hubs, including within customer sites.

Appendices

Appendix A Responses to PNAC proposals

Creating the new common-user Pilbara grid

Energy Policy WA proposal	APA response
Proposal 1. 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: (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.	**Proposals 1.1 to 1.3** APA supports all new transmission networks in the Pilbara being third-party access and regulated under a PNAC-style (light regulation) approach. This is critical for the development of a common-user shared transmission system in the Pilbara. Tests that may trigger ENAC-style (full) regulation need to be considered carefully to safeguard NSP and foundation customers who are underwriting common-user transmission infrastructure that aligns with the State's Pilbara Objectives. Please refer to section 3.3 and 3.4 of our response for details. **Proposals 1.4 and 1.5** We support retaining the covered and uncovered statuses for existing networks. Consideration should be given to updating the coverage test to separate tests that require third-party access from tests that contemplate economic regulation (light or full). Please refer to sections 3.1 and 3.2 of our response for details.
Proposal 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 set out in Box 5, page 28) as a way of evaluating outcomes in managing vertical	**Proposals 2.1 to 2.6** We support reforms that enable a transparent, competitively neutral market in the supply of power in the Pilbara. As a vertically integrated operator in the Pilbara, we are committed to adhering to all legal and functional separation obligations across our gas and electricity transmission operations.

Energy Policy WA proposal	APA response
integration. 2.3 Feedback is sought on three possible options for managing vertical integration: • 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 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 set out in Box 5 (page 28). (This assumes the ISO has been reconfigured to be truly independent and is adequately resourced.) • 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 set out in Box 5 (page 28). 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 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	We have reservations about the preferred proposal to move sensitive NSP functions to the ISO as a means of managing *potential* anti-competitive conduct by vertically integrated entities. Please refer to section 5.2 of our response for our detailed response. **Proposal 2.7 to 2.8** Preserving the regulatory conditions under which investment decisions are made is crucial for managing regulatory uncertainty and sovereign risks. We support grandfathering of arrangements that apply to existing, already constructed assets and those that are currently in development is required as the Pilbara transitions to the new regulatory framework. We are open to working with Energy Policy WA to discuss in further detail these arrangements and how and to what extent they might be transitioned in future. Please refer to sections 3.1 and 3.3 of our response for further detail.

Energy Policy WA proposal	APA response
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.	

Managing access across multiple networks

Energy Policy WA proposal	APA response
Proposal 3. Managing multiplicity of contracts – splitting access in two 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 be enshrined in the PNR and will apply to all networks, covered and non-covered, new and existing. See below for the transitional implications of this. 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.	**Proposal 3.1** The existing PNAC arrangements already provide a suitable framework for managing access to multiple networks, including 'wheeling-only' services, where the connecting party is not connected directly to the network it is seeking services from. We agree with EPWA's assessment that as the number and size of interconnected networks increase, the management of access across multiple networks may need clarifying. However, further discussions with relevant stakeholders are required to develop a matured solution to access on an interconnected Pilbara system. Please refer to section 3.5 of our response for further details. **Proposal 3.2 to 3.3** Preserving the regulatory conditions under which investment decisions are made is crucial for managing regulatory uncertainty and sovereign risks. We support grandfathering of arrangements that apply to existing, already constructed assets and those that are currently in development is required as the Pilbara transitions to the new regulatory framework. We are open to working with Energy Policy WA to discuss in further detail these arrangements and how and to what extent they might be transitioned

Energy Policy WA proposal	APA response
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. (c) Uncovered networks: EPWA will discuss this individually with each non-covered NSP.	in future. Please refer to sections 3.1 and 3.3 of our response for further details.
Proposal 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 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.	**Proposals 4.1 to 4.6** We welcome the initiative taken in seeking to resolve issues associated with access across multiple networks. Resolution of how access across multiple networks is managed is ideally resolved through a centralised approach with input from relevant stakeholders. We recommend further discussions with relevant stakeholders to identify the key issues that need to be addressed in a requirement to offer a multi-network access service and to develop model connection and interconnection agreement terms Please refer to section 3.5 of our response for further details.

Energy Policy WA proposal	APA response
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.	
Proposal 5. Managing tariffs across multiple networks 5.1 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.	**Proposal 5.1** We support the PNAC being maintained on this matter until such time as a case for change emerges, consistent with our views in in section 3.5 of our response.

Better regulation for network tariffs

Energy Policy WA proposal	APA response
Proposal 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. 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	**Proposals 6.1 to 6.5** We support greater flexibility in the tariff and non-tariff elements that could seek pre-approval from the ERA. Clarity on how the pre-approval process would determine the elements and the detail of any reopener of trigger events is needed to understand if these mechanisms would bring sufficient certainty to enable investment. Refer to chapter 3 of our response for details on the conditions required to for common-use transmission infrastructure that aligns with the State's Pilbara Objectives.

Energy Policy WA proposal	APA response
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.	
Proposal 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.	**Proposals 7.1 to 7.6** Network investments are made based on the commercial model in place at the time of investment. The potential for revenue control to be introduced during an asset's life creates investment uncertainty. Chapter 3 of our response expands on the need for long-term certainty in the Pilbara and discusses our experience with form of regulation reviews under updates to the NGL that have been applied outside of Western Australia.
Proposal 8. Managing tariffs for future-ready capacity 8.1 It is proposed that the PNAC will remain unchanged in relation to this matter until a case for change emerges.	**Proposal 8.1** We support the PNAC being maintained on this matter until such time as a case for change emerges, consistent with our views in in chapter 3 of our response.

Better regulation for terms and conditions

Energy Policy WA proposal	APA response
Proposal 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 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.	**Proposal 9.1** We support development of a model set of terms and conditions that may form the basis for bilaterally negotiated terms and conditions. We recommend Energy Policy WA facilitate further discussion with industry to ensure the model terms and conditions are fit for purpose given varied connecting party needs and ability to negotiate alternative terms. For example, it may be appropriate for small customers connected at distribution voltages to have a different set of model terms and conditions to other customers. The terms and conditions should seek to resolve issues such as liability gaps associated with interconnected networks, so that these are clear for connecting parties. Please refer to section 3.5 of our response for further details. **Proposal 9.2** Terms and conditions for APA's existing covered network are published and form the basis for negotiated access to the network. We support mechanisms that provide for departures from the terms and conditions. Such an allowance is fundamental to the light-handed regulatory framework and will be needed to facilitate the transmission investment and decarbonisation projects. The terms and conditions can reveal sensitive market positions for connecting parties. As such, we do not support requiring the NSP to identify and explain any departures except under arbitration circumstances. **Proposal 9.3** We support arbitrators considering model terms as part of the access dispute process.

Energy Policy WA proposal	APA response
	Proposal 9.4 We do not support applying model terms to existing covered networks in the same way as they would be applied to new covered networks. Existing contracts contain access terms and conditions as part of bundled and historic agreements. Applying model terms to existing covered networks would be complex and may require multiple overlapping contracts with various customers to be unwound. To the extent that spare capacity becomes available on existing covered networks, and that spare capacity is not subject to historic foundation customer rights, it is reasonable to adopt a revised approach. We support Energy Policy WA's recommendation that this reform be designed to ensure there is no effect on the terms and conditions for non-covered networks.
Proposal 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.	**Proposal 10.1** We support additions to the Act's "purpose" test to better regulate foundation user and other contractual rights. It is important to strike a balance between the risk that access is blocked and the need to incentivise foundation users. **Proposal 10.2** Whilst we support greater transparency, we do not agree with the proposal to make access contracts publicly available as discussed under Option B in the PNAC Consultation Paper. There are other methods to achieve the desired transparency without publishing contract details, such as confidential audit processes with the findings made public. **Proposal 10.3** We support transition projects that are underpinned by an agreement between the proponent and the State being immune from any additional measures

Energy Policy WA proposal	APA response
	included in the Act in relation to preventing or hindering access by others. **Proposal 10.4** We do not support having no legacy arrangements for existing covered networks. To the extent that legacy contracts have paid for rights to access and capacity, these rights must be recognised. It is not appropriate to re-prosecute whether these contracts have the effect of preventing or hindering access by others given ACCC legislation applied when the contracts were entered. As contracts come due for renewal, the conditions for access and capacity services can be updated to align with revised regulatory arrangements. However, having the State determine whether regulations apply to existing contracts is a sovereign risk to both NSPs and their customers. Further, new foundation customer rights provided for in transition project arrangements should not, by default, supersede existing customer rights.

Other improvements to access regulation

Energy Policy WA proposal	APA response
Proposal 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	**Proposal 11.1** We support improved accountability measures in the form of enhanced escalation processes to an independent Expert Technical Panel and the Economic Regulation Authority. Triggers which activate more stringent regulation, including possible triggers to switch a network from PNAC-style to ENAC-style regulation require further consideration. Please refer to section 3.3 of our response for further details.

Energy Policy WA proposal	APA response
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.	
Proposal 12. A transitional "fixed principles" mechanism 12.1 Consideration is being given to implementing a transitional mechanism in the form described under "Option under consideration" in section 6.2.2.	**Proposal 12.1** We support the adoption of fixed principles in the PNAC. Fixed principles will be critical for the development of Priority Projects and other projects that align with the State's Pilbara Objectives that provide long-term certainty on NSP and foundation customers investment conditions. Please refer to section 3.1 of our response for further details.

Appendix B Responses to PNR proposals

Power system security and reliability

Energy Policy WA proposal	APA response
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 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, taking into account network constraints.	**Proposal 1.1** We see value in long term planning that covers all the Pilbara, not just the NWIS. **Proposals 1.2 to 1.4** The proposed frequency of planning documents proposed is consistent with the current provisions. Given the ISO's recent rule change request to defer the subchapter 10.1 functions, it will be important that the cadence and content of the proposed PSP is genuinely useful to industry—rather than becoming a costly exercise that offers little insight. We agree that it is important for commercially sensitive data to be protected in the process of publishing data for the PSP. **Proposal 1.5** The need for a generation adequacy assessment in the Pilbara is unclear, as large customer loads drive the power requirements, and load information is typically sensitive.
Proposal 2: Network reliability standard 2.1 The default network planning and operation standard for the NWIS will be n-1. 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.	**Proposals 2.1 to 2.3** Any reliability standard developed should maintain the bilateral contracting mechanisms. Market participants in the Pilbara choose the level of supply and reliability best suited to their individual needs, and whether this is best achieved by dual circuits or other non-network solutions. The benefits of specifying a default reliability standard should be weighed against costs (including delay or uncertainty costs) of regulatory oversight associated of tests that must be passed to permit the alternative standards. APA suggests approaches that minimise the regulatory burden associated

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	with permitting developments that match customer reliability and investment appetite will be more likely to achieve the State's Pilbara Objectives. Please see section 2.4 of our response for further details supporting our position, which reflects that developments in the Pilbara will be customer driven.
Proposal 3: Capacity forecasting 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.	**Proposal 3.1** We do not think capacity forecasting is required in the Pilbara in the near to medium term. We recommend this is revisited when the market matures. Large customer loads drive the power requirements and, as outlined in chapter 2 of our response, are typically sufficiently incentivised and sophisticated to procure power supply solutions that align with the unique reliability and cost appetites.
Proposal 4: Individual capacity requirements 4.1 The ISO will set the method for participants to calculate their required contribution to the capacity requirement. 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.	**Proposals 4.1 to 4.5** We do not think a capacity adequacy mechanism is required in the Pilbara in the near to medium term. We recommend this is revisited when the market matures. Large customer loads drive the power requirements and, as outlined in chapter 2 of our response, are typically sufficiently incentivised and sophisticated to procure power supply solutions that align with the unique reliability and cost appetites.
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	**Proposals 5.1 to 5.3** We do not think a capacity adequacy mechanism is required in the Pilbara in the near to medium term. We recommend this is revisited when the market matures. Large customer loads drive the power requirements and, as outlined in

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• this supply will not be affected by network constraints. 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.	chapter 2 of our response, are typically sufficiently incentivised and sophisticated to procure power supply solutions that align with the unique reliability and cost appetites.
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 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.	**Proposals 6.1 to 6.5** We do not think a capacity adequacy mechanism is required in the Pilbara in the near to medium term. We recommend this is revisited when the market matures. Large customer loads drive the power requirements and, as outlined in chapter 2 of our response, are typically sufficiently incentivised and sophisticated to procure power supply solutions that align with the unique reliability and cost appetites.
Proposal 7: ESS framework 7.1 The two existing essential system services (ESS) will be retained. 7.2 The existing “FCESS” service will be renamed “Regulation”	**Proposals 7.1 to 7.4** We are supportive of the proposed changes to the naming conventions used for ESS. We also support the introduction of drafting that enables a

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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 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.	Contingency Reserve Lower service. **Proposal 7.5** We strongly support ESS being defined by ESS requirements rather than being limited to synchronous generation. This change is appropriate to enable the efficient management of power system and aligns with our recommendation that the technical rules are technology agnostic. Please see section 4.1 of our response for a summary of our position relevant to this proposal. **Proposal 7.6** We consider the current level and rate of penetration of renewables are not conducive for RoCoF studies to commence at this time. We recommend this proposal be revisited in the future when the market has matured further to avoid introducing undue costs. **Proposals 7.7 to 7.8** We support the allowance of dynamic requirements and locational settings as a means of optimising the volumes of ESS procured and matching real network configuration. **Proposal 7.9** We support the ISO monitoring compliance with standards for ESS provision, in the context of it contributing to the overall maintaining of a lean and efficient ISO. Please see section 5.1 of our response for a summary of our position on the future of the ISO relevant to this proposal.

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	Proposal 7.10 We support procurement through contracts given the size of the market and the lessons learned from the WEM.
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. 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.	**Proposals 8.1 to 8.2** We support a causer pays approach for ESS costs on the basis that it should incentivise participants to solve variations themselves. Please refer to section 6.2 of our response for issues identified when recovering imbalanced and Regulation (currently called FCESS) relevant to these proposals. **Proposals 8.3 to 8.5** We do not support the proposed changes to cost recovery of contingency reserve. The proposals are overly complex given the size of the market and likely cost of the service. We welcome the opportunity to discuss alternative approaches with Energy Policy WA that provide suitable incentives and retain the simplicity and transparency as a means of keeping regulatory costs efficient.
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.	**Proposal 9.1** We support the HTR providing guidance on system strength settings. However, we recommend the HTR provide minimum equipment rating, minimum fault level capability and set maximum allowable fault level ratings. Generators should be able to operate at minimum level of fault. **Proposal 9.2** We support the ISO approving system strength requirements. We recommend the ISO to undertake studies and publish minimum and maximum system strength requirements for different parts of the network and

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	set this out in a procedural document. The ISO is well positioned to undertake these studies efficiently as it has visibility of all NSP's actual fault levels at the different points of connection and the assignment of this responsibility to the ISO centralises the power system modelling tasks. **Proposal 9.3** Consideration should be given to the impact connecting renewables will have on system strength, and how the NSPs could be directed to support this. We would not support NSPs being directed to increase system strength because the ISO anticipates renewable connections which degrade system strength.
Proposal 10: Outage planning 10.1 The ISO will manage a centralised 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 risk-based outage assessment framework, in consultation with connected parties. 10.9 The ISO must assess outages according to the assessment framework and must approve outages unless doing so would have a material impact on PSSR.	**Proposals 10.1 to 10.4** We support the ISO having an expanded role in planning and publishing outages, including resolving potential conflict between parties where outages by one party may materially disadvantage another party either commercially or by posing unacceptable risks to PSSR on the interconnected system. We agree generation operators should be required to notify the ISO of outages. However, NSPs should continue to have autonomy on assessing outage impact from connected facilities on their network. To this end, we do not support the ISO approval of outages on NSP networks where the outage does not have the potential to materially impact PSSR or other participants. **Proposal 10.5** We support all facilities notifying the ISO of the outage. We support the position that outages do not require ISO approval except where there is a potential to materially impact PSSR. Our proposed alternative arrangements align with the ISO maintaining a cost effective, nimble, and technically focused role as discussed in Section 5.1, while expanding the ISO role where needed to safeguard participants from interconnection risks. **Proposals 10.6 to 10.7** We agree that dialogue between NSPs around outages is critical to manage

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	and avoid overlapping outages and minimise impacts, where possible. We support this consultation being mandatory. We do not support consultation being required when the actions do not impact other network participants. NSPs should retain the autonomy to manage their outages and maintenance on these occasions. We support the requirement for operators to submit a plan to mitigate reliability impacts where there the network outage would affect power system reliability and other network participants would be impacted. **Proposal 10.8** We support comprehensive consultation on any outage procedures developed by the ISO. **Proposal 10.9** We support ISO assessing outages in accordance with any defined assessment framework to provide certainty to stakeholders on the likely outcomes from ISO assessments. Where the ISO makes a determination that does not align with the framework, there should be a mechanism for stakeholder to have the ISO decision reviewed by an independent entity – either the ERA or a Technical Expert Panel. Please see section 5.1 of our response for a summary of our position on the future of the ISO relevant to this proposal.
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	**Proposal 11.1** We agree that requiring outage plans 12 months in advance is reasonable as an initial notification period for built assets with suitable provisions allowing for modification of the initial plans under prescribed circumstances. **Proposal 11.2** We support having a limit of two weeks on the time allowed for the ISO to assess and approve or reject on an outage plan.

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outage plan if there is a risk to power system security 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.	If further time, beyond the two weeks, is required, we recommend the participant be informed, the extended timeframe communicated, and an interim pending status is provided. **Proposal 11.3** We support allowance to modify outage plans after the initial notification (no later than 12 months in advance) under prescribed circumstances. Consideration should be given to limiting these circumstances to the outage window as per proposal 11.3. Detailed drafting should look to avoid situations where overly conservative estimated outages windows that are submitted early affect the ability for the ISO to approve later outage requests. **Proposal 11.4** On occasions where the ISO sees it fit to withdraw approval due to a system security or reliability risk, we would support a written notice being provided to the relevant party, including a comprehensive outline of the threat to power system security or reliability and the reasoning alternative actions to mitigate the risk that have been considered cannot be adopted. **Proposal 11.5** Clarity should be provided regarding whether compensation payments associated with withdrawn outages would be funded by a “causer pays” approach, or if costs would be socialised and recovered from all market participants. There is a risk that the latter approach may reduce the incentive for participants to plan and invest in reliability appropriately. In relation to the recall of equipment, we support an obligation on the ISO to demonstrate the risk being mitigated by recalling the equipment, and the reasoning alternative actions that have been considered cannot be adopted.

Scheduling and dispatch

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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 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. 12.5 Traded energy will be settled at the marginal clearing price at the point supply offers and demand bids intersect. 12.6 Participants can nominate specific facilities to provide balancing energy. 12.7 Participants from whom the ISO has procured backup capacity must provide balancing offers for the contracted facilities. 12.8 During the trading day, the ISO will designate and dispatch balancing facilities according to their bids and offers. 12.9 The ISO will determine a balancing price for compensating the balancing facilities based on the marginal price of the last facility dispatched. 12.10 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.	**Proposals 12.1 to 12.10** The proposal to introduce a day-ahead trading mechanism is premature and risks introducing certain regulatory costs that outweigh the benefits from such a market. Further, the proposed changes increase the complexity of the commercial arrangements and are likely to create a barrier to entry for new entrants to the market or drive investments away from interconnected solutions. Please see section 6.1 of our response for a detailed rationale of our position.

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12.11 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 Settlement procedure.	**Proposals 13.1 to 13.2** Metering is critical for well-functioning financial reconciliation mechanisms and should change infrequently, to ensure certainty in market and settlement processes. We support metering being enshrined in the PNR and procedures.
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 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	**Proposals 14.1 to 14.6** We understand the manual load shedding plan proposed would not replace the existing load shedding mechanisms, which have been functioning well and are largely automated. We require further clarity on how the load shedding list would be developed, and how the ISO would prioritise customers and loads. It is critical that, if enacted, any adjustments to the load shedding mechanisms, including any priority list, is widely consulted on to make sure that any commercial agreements are accommodated in the arrangements. As outlined in chapter 2, each customer in the Pilbara has unique reliability requirements meaning the tolerance for load shedding compared to costs associated with avoiding load shedding varies. Bilateral contracts and design solutions efficiently optimise these factors and need to be respected in any conditions that may inappropriately assume shortfalls in capacity is unjustified requiring a socialised load shedding solution. The ISO should only have the ability to load shed in exceptional circumstances, and these circumstances should be defined in the rules.

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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

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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 in house by January 2027.	**Proposals 15.1 to 15.2** We see the ISO as having a critical role in the Pilbara. We support a cost effective, nimble and technically focused ISO. We support the proposal to bring the ISO control desk operations in house by January 2027. We do not support the expansion of the ISO role as envisioned in the Consultation Papers. The ISO needs to remain cost effective, nimble and technically focused to encourage interconnected solutions that realise the State's Pilbara Objectives. Please see chapter 5 of our response for our detailed response on these proposals.
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	**Proposals 16.1 to 16.6** We see the ISO as playing a critical role in facilitating the interconnection of the Pilbara system. Key responsibilities include outage coordination, monitoring technical compliance, and managing system balancing and ESS procurement. To ensure trust and effectiveness, it is essential that the ISO remains impartial and independent from both industry and government. Other independent operators such as AEMO[31] and the European

[31] AEMO, 'Our Board' webpage, 2 April 2024, refer to: AEMO | Our Board

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appointed by the Minister for Energy. 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.	Transmission System Operator[32] have both industry and independent board members. As the ISO role matures, it is appropriate to update the board composition. In particular, the Pilbara ISOCo's Authorisation makes it difficult for subcommittees to be formed given the small number of board members. At present, the industry members of the board play an important role in managing the cost of the ISO and helping to the ensure the organisation undertakes functions that are mindful of industry realities. We are concerned that an ISO board without any industry representation that undertakes statutory (i.e. non-optional) functions, may lack the necessary incentives to operate efficiently, potentially leading to escalating costs. We support an independent board governing the ISO on condition that there is a stronger mechanism for industry input, for example by providing the Pilbara Advisory Committee (PAC) established by the Coordinator of Energy: • regular meetings with ISO Board (e.g. 3 times a year) • a mechanism to inform approach of ISO to strategic market design and delivery • review ISO plans and strategies • approve or reject changes to the rules, and • have ability to reject ISO budget changes in addition to the proposed ERA oversight.
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 review and approval by the ERA.	**Proposal 17** We are concerned the cost of the ISO will increase significantly and without commensurate benefits should the proposed expanded and new functions in the Consultation Papers be adopted. We support the introduction of ERA oversight of the ISO budget. However, we would like the opportunity to discuss how budget risks could be managed. In the WEM, the ERA oversees AEMO's costs in relation to functions performed in Western Australia. Under the WEM Rules, AEMO must be able

[32] ENTSO-E, *Our Governance, https://www.entsoe.eu/about/inside-entsoe/governance/*

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	raise funds through market fees to recover its costs. Equivalent provisions apply in the PNR to ensure that ISO can recover costs incurred with respect to its functions performed in the Pilbara. In May 2022, the ERA approved allowable revenue of $142.3 million and $61.5 million of forecast capital expenditure in AEMO's sixth access review period (AR6).[33] As of 28 June 2024, AEMO has requested two in-period submission. The two in-period submissions have resulted in of AR6 approved: • allowable revenue is $202.29 million, which is an increase of $59.99 million from the ERA's initial approved amount. • forecast capital expenditure for AR6 is $147.3 million, which is an increase of $85.8 million from the ERA's initial approved amount. AEMO has a three-year access review period. The following chart shows AEMO's actual and forecast WEM operating costs, with the final two years of increases being primarily driven by the WEM reforms.

[33] Economic Regulation Authority, Australian Energy Market Operator's AR6 second in-period allowable revenue and forecast capital expenditure proposal – final determination, 28 June 2024, Table 2, p. 9. Available at: Australian Energy Market Operator's AR6 second in-period allowable revenue and forecast capital expenditure proposal

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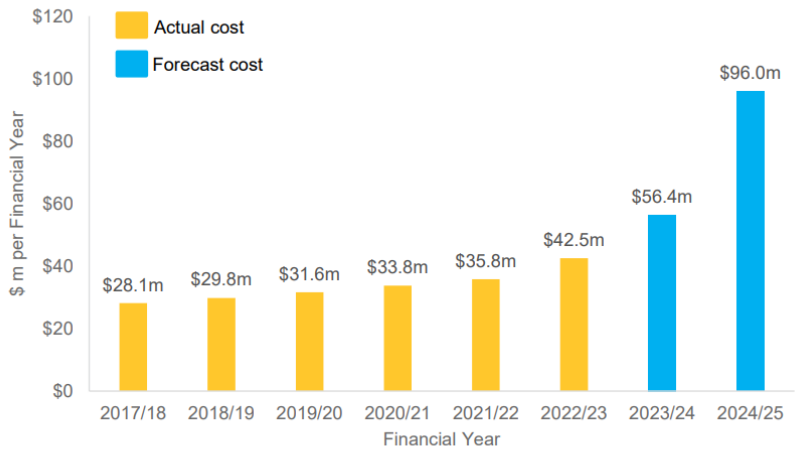
	Figure 3: AEMO WEM Operating Costs  *Source: AEMO WA Budget and Fees documents, AEMO's AR6 proposals. See Appendix 3 for details on the calculation methodology.* The statutory protections related to fee recovery combined with functions being obligatory means the ERA and industry were unable disallow or otherwise manage these significant cost risks. We recommend a stronger mechanism for industry input in the Pilbara, for example, by providing the Pilbara Advisory Committee (PAC) established by the Coordinator of Energy with the ability to approve or reject changes to the rules and have ability to reject ISO budget changes.
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. 18.4 The approach to ISO cost recovery will be changed at the same time as the board composition is changed.	**Proposal 18** We do not support ISO costs being recovered only from participants connected to the NWIS where ISO functions are expanded to cover and benefit the Pilbara more broadly. Recovery of costs only from the NWIS risks exasperating the existing differences in regulatory costs that occur between NWIS versus non-interconnected power supply solutions. We recommend fees be allocated to connecting parties on a $/MW-capacity basis not on a $/MWh basis. This would avoid customers that benefit from

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	ISO oversight but who only require access to the interconnected system intermittently contributing to an appropriate proportionate share of the costs. Further consultation on the timing of changes to cost recovery is required to enable participants to prepare for the change. It is not necessary to link this timing to ISO board composition changes. Please see chapter 5 of our response for our detailed response on this proposal.
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. 19.5 Disputes about classification of information will be resolved by the Coordinator of Energy.	**Proposals 19.1 to 19.5** We support changes to the confidential information provisions. The proposed approach may be workable if the definition of 'confidential information' is clear. Further consultation on the detailed drafting is required to establish if the proposed approach can be supported. An alternative approach would be to adopt the "common law" definition as applies in the NEM. Under this approach confidential information is information that, by its nature, has the "necessary quality of confidence" (for example, information is not public knowledge or the recipient ought to have known it was to be kept confidential and unauthorised use would cause harm). We support disputes about the classification of information being identified determined by the Coordinator of Energy provided that such decision by the Coordinator is classified as a 'reviewable decision' under the PNAC and PNR.
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.	**Proposals 20.1 to 20.4** We support the ISO continuing to have a role in monitoring compliance with the PNR, HTR and in resolving technical disputes. We also support the ERA having a compliance role, focusing on economic regulatory and commercial disputes. We do not support all updated ISO functions indicated in this proposal or the introduction of the day-ahead market. Please refer to chapter 5 of our response

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20.4 The ERA will continue to monitor behaviour, with additional focus required from the start of the balancing mechanism.	for further detail.
Proposal 21: Compliance enforcement 21.1 The ISO will be able to issue formal warnings and requests for non-compliant parties to return to 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.	**Proposals 21.1 to 21.5** We support a more mature compliance and enforcement framework for the Pilbara. The proposed approach consisting of an escalating range of actions is appropriate. We suggest that a Technical Panel of Expert be formed to resolve technical disputes with the ISO and as a form of escalation for issues identified by the ISO. Similar mechanisms apply in the WEM and the NEM for technical disagreements between participants and AEMO.

New Connections

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Proposal 22: NSP to NSP connection arrangements 22.1 The PNR will include a process for the interconnection of additional networks 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.	**Proposal 22.1** We support the formation of a well-defined interconnection process to eliminate ambiguity and conflicts when assessing connection agreements between NSPs. We recommend further discussions with relevant stakeholders to identify and resolve key issues related to liability and risk allocation up and down-stream of the interconnection point, disconnection and suspension rights, adverse impacts, and management of exemptions across multi-network access. Please refer to section 3.5 of our response for further detail.

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22.5 Self-contained network infrastructure may opt to demonstrate compliance at the interconnection point to the NWIS.	**Proposal 22.2** We do not support the ISO managing the connection process for new networks connecting to the NWIS. The ISO role should be overseeing compliance with any new NSP-NSP technical requirements and approving the technical aspects of arrangements so that that adequate governance controls are maintained for these arrangements. To the extent that monitoring of access contract terms is required to manage competition concerns, the ERA is the regulator with the necessary skillset. **Proposals 22.3 to 22.4** The HTR require urgent updates to enable decarbonisation activities and avoid delays to connection. Once updated, we support chapters 2 and 3 of the HTR forming the base for assessing compliance on any newly integrated networks A robust, fit-for-purpose set of technical rules will also lay the groundwork for new chapters addressing NSP-NSP technical provisions. Please refer to chapter 4 of our response for further detail. **Proposal 22.5** We support the allowance for existing and transitional self-contained networks (i.e. non-NWIS networks) to demonstrate compliance at the interconnection point to the NWIS. Ultimately, APA considers having a single set of rules applicable to all interconnected networks as critical for the efficient operation of a truly interconnected Pilbara system. However, to ensure a fair and competitively neutral market in the supply of power, demonstration of compliance at the connection point should be allowed for networks, including third-party service provider's networks. Please refer to section 4.2 of our response for further detail.

Energy Policy WA proposal	APA response
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 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.	**Proposals 23.1 to 23.3** The foundation customer rights should be determined based on the customer's individual needs and the conditions required to support their investment. We do not necessarily support the rights being defined as per proposals 23.1 to 23.3. Predefining service offerings may misjudge foundation customer circumstances and desired services in a way that undermines the ability for these customers to underwrite projects that align with the State's Pilbara Objectives.
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 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 24.1** We support that networks that are not connected to the NWIS should be distinguished from those that are interconnected with the NWIS. **Proposals 24.2 to 24.5** We do not support the proposal to apply the PNR and HTR fully to networks providing third-party services on isolated networks, while excluding those networks operated by vertically integrated entities that serve their own load and generation. To enable a fair and competitively neutral power supply market, third-party service providers and vertically integrated self-servicing providers should be afforded the same flexibility to design power solutions that meet the Pilbara-specific needs. Please refer to section 4.2 of our response for further detail.

Energy Policy WA proposal	APA response
Proposal 25: Storage participation 25.1 Controllers of storage works above 5 MW must register their facilities. 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.	**Proposals 25.1 to 25.3** We support including storage participation as 'Energy Producing System'. This change is required urgently to enable decarbonisation that is supported by battery energy storage systems to more easily participate in the EBAS, provide ESS and have their connection be efficiently assessed. Updates to include storage should appropriately define and recognise the dual role that storage plays as both load and generation.
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 position. 26.4 Owners of flexible loads will be allowed to contract with the ISO to provide contingency reserve raise as interruptible load.	**Proposals 26.1** We are supportive of load participation, including battery energy storage systems, being focused on ESS provision. **Proposal 26.2** As outlined in our responses to proposals 4, 5 and 6, we do not think a capacity adequacy mechanism is required in the Pilbara in the near to medium term. We recommend this is revisited when the market matures. **Proposals 26.3 to 26.5** The proposal to introduce a day-ahead trading mechanism is premature and risks introducing certain regulatory costs that outweigh the benefits from such a market. Further, the proposed changes increase the complexity of the commercial arrangements and are likely to create a barrier to entry for new entrants to the market or drive investments away from interconnected solutions. Please see section 6.1 of our response for a detailed rationale of our position.

Energy Policy WA proposal	APA response
	Proposals 26.4 We support flexible loads being allowed to contract with the ISO to provide all technically relevant ESS services, including contingency reserve raise services.

Development of the Harmonised Technical Rules

Energy Policy WA proposal	APA response
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.	**Proposals 27.1 to 27.2** We agree, in principle, with a default standard for "automatic qualification", on the condition that the HTR is uplifted. A suitable HTR serving as a minimum standard could streamline processes for connection applicants, NSPs and the ISO, and create uniformity across the industry. Even with automatic qualification, however, it is important prior to new connections that NSP are consulted to ensure both foundation customers and those with supply guarantees are not adversely affected by the integration of the new connection. **Proposal 27.3** We support the HTR forming the minimum standard for connection with this minimum standard being the "automatic qualification" standard. A negotiation framework for connections as applies in the NEM and WEM is likely to introduce significant costs and delays that would undermine achievement of the State's Pilbara Objectives. The term "medium term" is ambiguous and does not provide clear indication of how long this phase will last and what interim standards, if any, will apply. We recommend Energy Policy WA continue to work with the Technical Rules Working Group to inform the HTR uplift.

Energy Policy WA proposal	APA response
	Proposal 27.4 This may be contradictory to the negotiated outcomes discussed in Proposal 28.5 (HTR negotiation framework). Whilst having a baseline level of quality or safety that all connected equipment must satisfy can drive improvement and consistency across the market, clarity is needed on how legacy equipment or emerging technologies are treated that are unable to meet these requirements. There is a risk of market disruption or reduced competition if the standards are set too high or if there is insufficient time for transition. Further clarity is needed on how non-compliant equipment will be identified and phased out, and what the implications will be for manufacturers and users.
Proposal 28: HTR negotiation framework 28.1 NSPs must negotiate with access seekers and consult with the ISO on requested departures from the default 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).	**Proposals 28.1 to 28.2** We support the ISO having a role to issue guidance to help shape negotiations between access seekers and NSPs, helping to ensure fair treatment and clear expectations. We do not support ISO having power final of approval, and recommend the negotiation appropriately taking place between the access seeker and NSP, with the ISO's role to provide the dispute resolution mechanism discussed in our response to proposal 28.4 below. **Proposal 28.3** We support measures that promote transparency and accountability by keeping stakeholders informed. To this end, we support NSPs publishing **estimated** timeframes for connection assessments, and keeping stakeholders informed of any unforeseen delays. It is important that these measures do not pressure NSPs to prioritise meeting estimated timelines at the expense of a complete and thorough assessment process.

Energy Policy WA proposal	APA response
	Proposal 28.4 We support the ISO providing a clear and concise dispute resolution mechanism, along with procedures and guidelines, which will help ensure no disputes are left unaddressed. **Proposal 28.5** We support the publication of all deviations from the automatic qualification.