



Regulatory framework for the Pilbara electricity networks Design Consultation Paper

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1. INTRODUCTION

Horizon Power welcomes the delivery of Regulatory framework for the Pilbara electricity networks Design Consultation Paper (the Design Consultation Paper).

Most of Horizon Power's feedback on the Design Consultation Paper relate to details of the proposed reforms which can be readily addressed during the detailed design phase without adversely affecting the timing or intent of the proposed reforms. Horizon Power believes that inclusion of this feedback into the Pilbara Reform process will play an important role in developing a long-term, beneficial and sustainable regime meeting the objectives for the region outlined in the Public Utilities Offices' (PUO) Design Consultation Paper.

While the North West Interconnected System (NWIS) may be unique in its own right, the implementation of an independent system operator (ISO) and any associated regulatory framework are common practice for large networks. Each network however, generally encounters its own set of challenges, such as¹,

- The difficulty integrating renewable energy technology into the National Electricity Market (NEM) and the NEM delivering against policy objectives more generally; and
- The complex commercial arrangements required to establish constrained network access services in the South West Interconnected System (SWIS) to better support the role emerging technologies can play in efficient electricity supply solutions.

The design phase of the Pilbara regulatory framework provides an ideal opportunity to review the challenges other networks have encountered and learn from their experiences. This will enable the development of a regulatory model that is able to cater for emerging issues such as high penetration of renewables, and distributed energy systems. There is potential for Western Australian to lead the way in modern regulatory reform and showcase the Pilbara through the establishment of a light handed regulatory regime having a real focus on the distribution network as a platform for orchestrated Distributed Energy Resources (DER). This would also complement the current work under way with the PUO and Treasury on the development of a microgrid regulatory model.

Accordingly one additional design principle that Horizon Power recommends is the proposed regulatory framework does not obstruct integration of distributed energy systems.

¹ The references which have formed Horizon Power's view on these issues can be submitted to the PUO on request.

2. MEETING THE OBJECTIVES OF THE PILBARA REFORM

Horizon Power is supportive of the objectives the PUO detailed in the NWIS Issues Paper² for reforms in the Pilbara (the Reform Objectives), noted to be:

- *Efficiency that will provide benefits to electricity consumers in the region through lower prices, greater choice, and potential innovations in product offerings.*
- *Efficiency for industry and energy producers to make prudent investment decisions by creating the potential for shared use of common infrastructure and avoiding wasteful duplication.*
- *Efficiency that will boost regional economic growth and development and create jobs, whether that be by lowering the operating cost of local business, lowering the cost of electricity as an investment hurdle for expanding mining and other industry operations in the Pilbara; or creating new opportunities and jobs in the energy sector.*
- *An efficient process that is not overly burdensome or introduce undue costs. The NWIS, as it stands today, is not equivalent to the South West Interconnected System (SWIS) in terms of size or relative market development and as such, the framework that is developed must be fit-for-purpose.*

Horizon Power believes that the Design Consultation Paper would benefit from linking the proposed Design Elements to the above Reform Objectives. Further, a cost benefit analysis should be undertaken of different options against the above Reform Objectives.

Horizon Power notes there are range of issues raised in the NWIS Issues Paper that were not addressed in the Design Consultation Paper that will need to be addressed through the design phase.

3. MATTERS RAISED IN THE MINISTER'S FINAL COVERAGE DECISION

In the Minister's Final Coverage Decision dated 2 February 2018, section 7.4 details a range of important policy considerations for government, these are detailed below.

The Government will need to review and determine the extent of the policy changes that will be needed to address a number of issues, including but not limited to:

- *any adverse impact to State finances if Horizon Power is unable to recover its high fixed costs following coverage;*
- *whether contestability thresholds may be an appropriate way to stage the development of retail market competition over time;*
- *whether the current policy settings for the TEC remain appropriate in an environment where Horizon Power would face retail market competition;*
- *the eligibility thresholds for customers in being able to access subsidised tariffs under UTP if they are able to choose a competitive market retailer;*

² Improving Access to, and operation of, the Pilbara electricity network - the North West Interconnected System Issues Paper

- *ensuring appropriate default retailer arrangements are in place for continued electricity supply to customers where competitive retailers enter or exit the market; and*
- *whether there should be a light handed regulatory regime for the NWIS to facilitate third party access rather than the Code's current regulatory requirements and establishing an independent system operator to oversee network operations in the region.*

Whilst the Design Consultation Paper comprehensively addresses the last dot point, the other matters raised in the Minister's Decision also require consideration. Horizon Power submits that as work proceeds in the design and implementation phases of the regulatory framework, a working understanding of government's policy position will be required to manage any interdependencies and potential conflicts. It may be prudent to include reference to these policy reforms in future papers.

4. LIGHT HANDED REGULATION

The PUO has proposed a form of light-handed regulation that does not have any of the key terms of access pre-determined at inception. Horizon Power has concerns with this approach as applied to an interconnected electricity network operating under the *Competition and Consumer Act 2010* (Cth) (CCA), specifically the provisions of section 46. These concerns are detailed in advice, provided confidentially to the PUO, on the legal risks of implementing contracts that underpin the establishment of a competitive market without any form of regulatory predetermination, or approval. Horizon Power suggests obligations described in the CCA will result in actions by network owners to manage legal risk that will materially impede the efficiency and effectiveness of the proposed light-handed regime. This should be considered in detail during the PUO's detailed design phase.

In particular, predetermination of key pricing elements, such as Regulated Asset Base (RAB), Weighted Average Cost of Capital (WACC), and key terms of network access are recommended to assist in managing the impact of obligations described in the CCA.

5. CLARIFICATION OF DETAILS IN PAPER PERTAINING TO ISO

The following discussion is to clarify some of Horizon Power's positions and interpretation of concepts as they are presented in the Design Consultation Paper.

5.1 MARKET BEING ESTABLISHED

Horizon Power understands that the Design Consultation Paper is attempting to address a number of issues that have been addressed in electricity and gas markets in other jurisdictions. The fact that these matters are being addressed and implemented requires very clear recognition that a market design is being undertaken. Based on the Design Elements presented, Horizon Power understand the electricity market that the PUO is seeking to establish can be characterised as follows:

- There is no wholesale electricity market in the Pilbara, nor is there likely to be one in the near future;
- Energy will be traded through bilateral contracts between Participants or consumed within their own operations;
- In the absence of a wholesale electricity market, the provision of Ancillary and Balancing Energy Services can be provided by those that have sufficient load and generation contracts to provide the required services (deviation above and below contractual obligations). Horizon Power understands these parties are currently Rio Tinto, Alinta and Horizon Power. This provides some limited opportunity for competition for the provision of these services.

The combination of these considerations will determine the market design that will be implemented as part of these reforms. It is therefore important to understand the limitations associated with each to enable the successful implementation of arrangements such as the proposed market carriage model.

5.2 ISO GOVERNANCE

The Consultation Paper concludes an Independent Board is the most appropriate solution for the governance of ISO. In providing the case for the AEMO (independent) Board the PUO does not identify one of the key advantages of the Board of Participants Option. The core benefit to establishing a Board of Participants is to improve the likelihood that participants “opt in” to being covered networks in the Pilbara. As the PUO has noted in the Design Consultation Paper, Section 2.2.1, coverage of all of the network assets in the Pilbara is key to the effective use of, and investment in, assets in the region. Supporting this outcome long term should be a key consideration of the Design Consultation Paper.

5.3 DEFINITION OF DISPATCHING

In the Glossary section of the Consultation Paper, the PUO defines *dispatch* as,

“Dispatch of generation to satisfy supply obligations and/or to support secure and reliable operation of the network.”

In Design Elements 13 and 21, the selected wording leads the reader to believe that the ISO will be responsible for the control of these dispatching services, i.e. in Design Element 13,

...The ISO will also design any changes to scheduling and dispatch resulting from constraints to new or expanded generators, in accordance with the NWIS Rules, and will accordingly manage constrained dispatch where required.

As well as in Design Element 21,

...The ISO will undertake planning, scheduling and dispatch services for the NWIS interconnected network...

Horizon Power queried the PUO's interpretation of the ISO's role in dispatching during the public forum and would like to reiterate their response in this submission. In regards to the ISO performing Scheduling and Dispatching, these services do not actually involve the dispatching of electricity, but rather confirming that generator planned dispatching forecasts align with their predetermined constraints. Horizon Power requests that future publications in relation to these ISO functions use terminology defined in the document to avoid confusion.

5.4 ABILITY OF THE ISO TO OUTSOURCE

The Design Consultation Paper States,

Horizon Power suggested that the ISO should be a separate commercial body but that it could deliver its function by contracting with network service providers (such as Horizon Power's or Rio Tinto's Control Centre).

For the sake of clarity, Horizon Power's intent was not to suggest the ISO deliver all of its functions in an outsourced manner. Rather, Horizon Power suggested some services required for the ISO to deliver its function might be outsourced if this was the most cost efficient solution and in the best interest of the overall system. This is particularly relevant for the Pilbara where there may not be the economies of scale to maintain all of the expertise required to fulfil the ISO's functions.

Outsourced services may include system planning functions, creation of statement of opportunities, processing of large connection applications, legal advice and consultants support for ongoing reforms. Further, the 24-hour monitoring service is another aspect that could be outsourced (if most efficient) under scope and direction from the ISO without breaching any confidentiality issues. This is because the ISO is not performing economic dispatch and any instructions issued during emergencies needing to be detailed in procedures in all cases (i.e. whether 24-hour monitoring is in-house or outsourced).

While Horizon Power's initial attempt at conveying this point appears to have been misinterpreted, the PUO seems to have arrived at a similar conclusion. Noting that the described scenario aligns well with Design Element 27,

The ISO will be a stand-alone entity, with the proposed functions undertaken by AEMO as an extension of its current Western Australian operations, noting that it may choose to contract with other network service providers for provision of some services

6. MARKET CARRIAGE MODEL

Horizon Power queries how Design Element 8 will be implemented within the context of the other design elements and the likely nature of network ownership in the Pilbara now and in the future.

Design Element 8 states:

Network access in the NWIS will be designed as a 'market carriage' regime.

With respect to network access, Market Carriage models are generally considered to have the following properties³,

- Network capacity is allocated dynamically through the energy market (hence “market” carriage).
- Limited or no firm rights to access capacity
- Customer contracts only with the network it is connected to (as an entry or exit point).

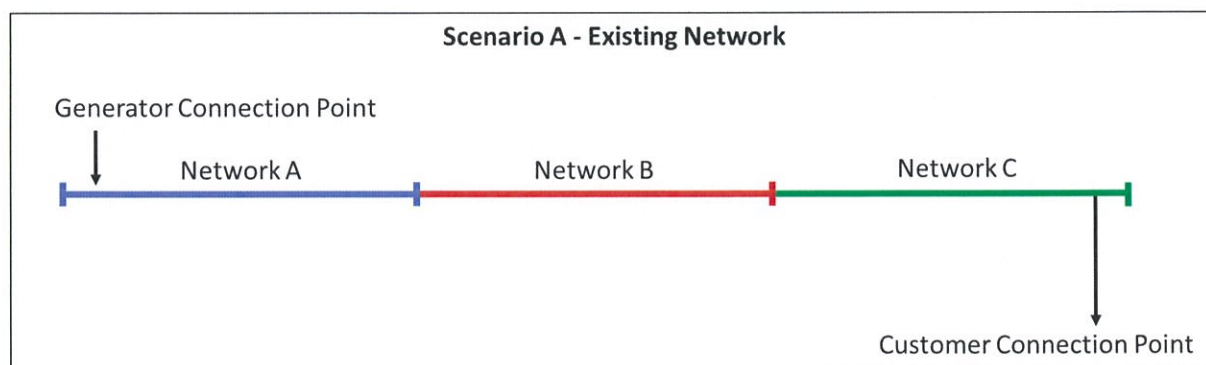
Horizon Power assumes the intent of this design element is to simplify network arrangements for customers connecting to the network and avoid the contractual complexity Horizon Power has detailed in its previous submission (referred to as Market Carriage Objective).

Horizon Power notes that the NWIS is likely to have the following qualities:

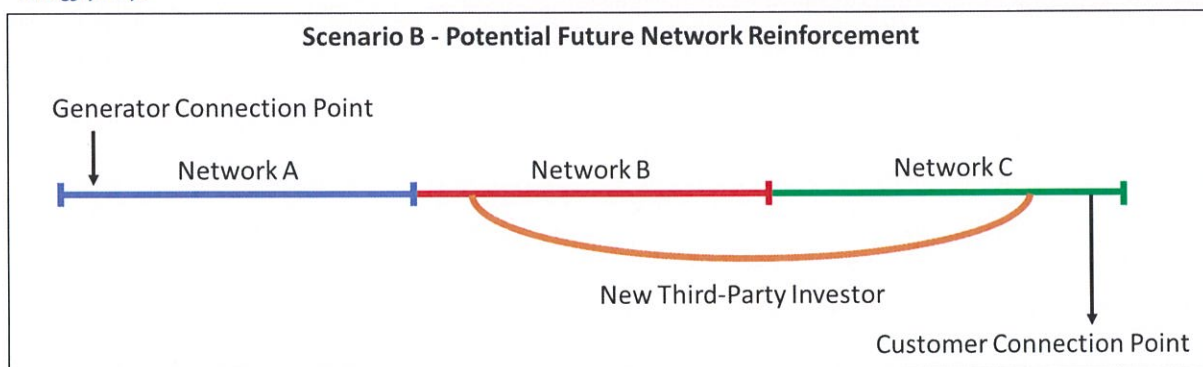
- The absence of a wholesale market (as discussed in section 5.1)
- Multiple network owners with greatly varying customer densities (as an extreme example it is conceivable that some network owners will have no loads or generators connected to their network and will only interconnect / reinforce other networks)
- A light handed regulatory regime with limited pricing guidance.

Under these circumstances Horizon Power queries how the market carriage model will operate to deliver the intended benefits.

As an example of this concern, Horizon Power provide the supply and load solutions below.



³ Refer to <https://www.aemc.gov.au/energy-system/gas/gas-markets>



To support efficient use of and investment in electricity infrastructure there must be a mechanism for the following to occur.

- Network B to receive a payment for the network capacity consumed in its network in supplying the Customer Connection Point.
- The new third party investor to receive payment for the network service it is now supplying to the Customer Connection Point and other customers (noting this network may have no customers connected directly to it).

Horizon Power is not clear how the above will be delivered in the NWIS under the market carriage model used in gas networks eastern states.

Delivering against the assumed intent of the Market Carriage Objective is important for the success of any reform in the Pilbara. Horizon Power suggests that elements of the ISO being a clearing house for network transport services payments may assist the PUO in delivering against the Market Carriage Objective during the detailed design phase. Horizon Power expects that the concerns raised in the Design Consultation Paper on this topic will be resolved through further analysis.

7. RENEWABLE ENERGIES AND FUTURE PROOFING REFORMS

7.1 ENCOURAGING RENEWABLE ENERGY GROWTH IN THE PILBARA

As noted in Horizon Power's response to the NWIS Issues Paper, renewable energy projects would benefit significantly from being able to position their infrastructure away from the cyclone prone coastal strip, while still having access to a system that aggregated loads to improve economies of scale and penetration. This system would ideally continue to aggregate coastal and inland loads and add loads that are not connected to the system over time.

Horizon Power submits that the barriers faced by large scale renewable energy generators, as well as junior minors, under the proposed reforms are:

1. The lack of a mechanism that enables third-party investment into multi-user transmission assets;
2. The contractual volume and complexities that arise from supplying electricity to consumers across multiple covered networks in which agreements must be established with every affected network owner; and

3. Requirement for any given load to meet requirements from non-dispatchable renewables and dispatchable generation.

Issues 1 and 2 have been discussed with respect to their impact on the existing participants in Horizon Power's response to the Reform Objectives, however their impact on the greater Pilbara region, and in turn the state, has yet to be explored. Issue 3 is a detail that should be addressed in the design of balancing arrangements to be established⁴.

While the proposed reforms will serve to solve a number of the issues raised in the NWIS Issues Paper, there is also an excellent opportunity to take the reforms one step further to not only solve the issues, but to create a network that actively promotes growth in the region.

With the development of transmission assets away from coastal regions prone to cyclonic winds, the viability of large scale solar generation increases. With the greater level of renewable energy penetration, the lower the region's reliance on gas becomes. This in turn will induce competition in a market with limited fuel supply options, as well as improving overall system reliability given that gas curtailments will no longer affect all generators in the region.

All of these benefits will result in improved system stability, reduced barriers for new developments and have the potential to result in lower costs to consumers.

7.2 FUTURE PROOFING THE ISO AND PILBARA REFORMS

Horizon Power emphasises how important it is that any implemented reforms be flexible enough to adapt to new technologies, systems and platforms that will inevitably arise in the future.

A few examples to consider which, while currently in early stages of development, will most likely require consideration by the time the ISO and the Pilbara Reforms are established. These are noted to be:

- Increased penetration of DER;
- Standalone power systems;
- Orchestration of DER; and
- Electric vehicles and their associated infrastructure.

As a starting point, the following changes can be made to the Design Elements to ensure the ISO continues to develop in line with best industry practices

- **Design Element 20, Point 6:** This ISO design principle could be strengthened from "not presenting a physical constrain" to something to the effect of "supporting new technologies that may deliver more efficient solutions".
- **Design Element 20, Point 7:** Refers to periodic reviews of the ISO. This review process should also look to incorporate future technologies and systems as they arise.

⁴ It is noted that a solution to this issue was established by Alinta and Horizon Power in their previous access negotiations.

- **Design Element 23:** relates to statement of opportunities although the statements noted are quite specific. This design element can be expanded to include issuing of statement of opportunities that relate to the development of platforms to support future technologies and platforms (peer to peer trading or similar concepts) once they have been established as a mature process in industry

8. SUPPORTING IMPLEMENTATION

Horizon Power wishes to work with the PUO to ensure the best outcome for the benefit of the State. To this end, the PUO has the full commitment and collaboration of the staff of Horizon Power in the provision of any required assistance, in the form of information, detail or modelling of concept as required, to ensure the task is completed in a timely manner.

Horizon Power recommends that the PUO establish workgroups with relevant stakeholders and Participants during the detailed development phase. This will enable the vast experience and varied backgrounds to be pooled to assist with the development of an optimal solution.