

Meeting Agenda

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| Meeting Title: | Pilbara Advisory Committee (PAC) |
| Date: | Thursday 5 December 2024 |
| Time: | 9:30 AM – 11:30 AM |
| Location: | Online, via TEAMS |

| Item | Item | Responsibility | Type | Duration |
|------|---|----------------|------------|----------|
| 1 | Welcome and Agenda <ul style="list-style-type: none"> Conflicts of interest Competition law statement | Chair | Noting | 2 min |
| 2 | Meeting Apologies/Attendance | Chair | Noting | 2 min |
| 3 | Minutes of Meeting 2024_08_29 Published 11 November 2024 | Chair | Noting | 1 min |
| 4 | Action Items | Chair | Noting | 2 min |
| 5 | Discussion of Draft Design Proposals for EPNR Consultation Paper | WG Chair | Discussion | 105 min |
| 6 | PAC Meeting Schedule for 2025 | EPWA | Discussion | 5 min |
| 7 | General Business | Chair | Discussion | 3 min |
| | Next meeting: 1:30 PM, 1 May 2025 | | | |

Please note, this meeting will be recorded.

Competition and Consumer Law Obligations

Members of the PAC (**Members**) note their obligations under the *Competition and Consumer Act 2010 (CCA)*.

If a Member has a concern regarding the competition law implications of any issue being discussed at any meeting, please bring the matter to the immediate attention of the Chairperson.

Part IV of the CCA (titled "Restrictive Trade Practices") contains several prohibitions (rules) targeting anti-competitive conduct. These include:

- (a) **cartel conduct**: cartel conduct is an arrangement or understanding between competitors to fix prices; restrict the supply or acquisition of goods or services by parties to the arrangement; allocate customers or territories; and or rig bids.
- (b) **concerted practices**: a concerted practice can be conceived of as involving cooperation between competitors which has the purpose, effect or likely effect of substantially lessening competition, in particular, sharing Competitively Sensitive Information with competitors such as future pricing intentions and this end:
 - a concerted practice, according to the ACCC, involves a lower threshold between parties than a contract arrangement or understanding; and accordingly; and
 - a forum like the PAC is capable being a place where such cooperation could occur.
- (c) **anti-competitive contracts, arrangements understandings**: any contract, arrangement or understanding which has the purpose, effect or likely effect of substantially lessening competition.
- (d) **anti-competitive conduct (market power)**: any conduct by a company with market power which has the purpose, effect or likely effect of substantially lessening competition.
- (e) **collective boycotts**: where a group of competitors agree not to acquire goods or services from, or not to supply goods or services to, a business with whom the group is negotiating, unless the business accepts the terms and conditions offered by the group.

A contravention of the CCA could result in a significant fine (up to \$500,000 for individuals and more than \$10 million for companies). Cartel conduct may also result in criminal sanctions, including gaol terms for individuals.

Sensitive Information means and includes:

- (a) commercially sensitive information belonging to a Member's organisation or business (in this document such bodies are referred to as an Industry Stakeholder); and
- (b) information which, if disclosed, would breach an Industry Stakeholder's obligations of confidence to third parties, be against laws or regulations (including competition laws), would waive legal professional privilege, or cause unreasonable prejudice to the Coordinator of Energy or the State of Western Australia).

Guiding Principle – what not to discuss

In any circumstance in which Industry Stakeholders are or are likely to be in competition with one another a Member must not discuss or exchange with any of the other Members information that is not otherwise in the public domain about commercially sensitive matters, including without limitation the following:

- (a) the rates or prices (including any discounts or rebates) for the goods produced or the services produced by the Industry Stakeholders that are paid by or offered to third parties;
- (b) the confidential details regarding a customer or supplier of an Industry Stakeholder;
- (c) any strategies employed by an Industry Stakeholder to further any business that is or is likely to be in competition with a business of another Industry Stakeholder, (including, without limitation, any strategy related to an Industry Stakeholder's approach to bilateral contracting or bidding in the energy or ancillary/essential system services markets);
- (d) the prices paid or offered to be paid (including any aspects of a transaction) by an Industry Stakeholder to acquire goods or services from third parties; and
- (e) the confidential particulars of a third party supplier of goods or services to an Industry Stakeholder, including any circumstances in which an Industry Stakeholder has refused to or would refuse to acquire goods or services from a third party supplier or class of third party supplier.

Compliance Procedures for Meetings

If any of the matters listed above is raised for discussion, or information is sought to be exchanged in relation to the matter, the relevant Member must object to the matter being discussed. If, despite the objection, discussion of the relevant matter continues, then the relevant Member should advise the Chairperson and cease participation in the meeting/discussion and the relevant events must be recorded in the minutes for the meeting, including the time at which the relevant Member ceased to participate.



Agenda Item 4: PAC Action Items

Pilbara Advisory Committee (PAC) Meeting 2024_12_05

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| Shaded | Shaded action items are actions that have been completed since the last PAC meeting. Updates from last PAC meeting provided for information in RED . |
| Unshaded | Unshaded action items are still being progressed. |

| Item | Action | Responsibility | Meeting Arising | Status |
|--------|--|----------------|-----------------|---|
| 8/2024 | EPWA to provide a further update on the Pilbara Energy Transition Plan at the 5 December 2024 PAC meeting, focusing on topics of interest. | EPWA | 2024_08_29 | Closed <i>Action will be closed. Today's meeting needs to focus on the draft proposals for the EPNR Consultation Paper. Both the EPNR Consultation Paper and the PET Plan Consultation Paper will be published at the same time and open for submissions for the same period.</i> |

Note. Closed action items will be removed from this list once noted at a PAC meeting. Accordingly, the numbering of action items may not be sequential.

Agenda Item 5: Discussion of Draft Design Proposals for EPNR Consultation Paper

Pilbara Advisory Committee (PAC) Meeting 2024_12_05

1. Purpose

The PAC is asked to:

- review, and provide feedback on, the draft proposals for the Evolution of the Pilbara Network Rules (EPNR) Consultation Paper (**Attachment 1**);
- note that the proposals are in a draft state and that Energy Policy WA is still editing some of the wording.

2. Recommendation

That the PAC:

- (1) provides feedback on the draft proposals for the EPNR Consultation Paper; and
- (2) notes that a draft of the EPNR Consultation Paper will be shared with PAC Members out of session.

3. Process

Energy Policy WA, in consultation with the PAC, is reviewing the current Pilbara Network Rules (Rules). The current Rules are designed for a power system dominated by vertically integrated participants and dispatchable thermal generation.

Following the conclusion of the Pilbara Industry Roundtable (Roundtable) in August 2023, participants agreed that new common use electricity infrastructure and an evolved Pilbara regulatory regime were both necessary to support the energy transition in the region.

The Evolution of the PNR (EPNR) project timeline is as follows:

- Stage 1: Project Establishment (December 2023 – March 2024)
- Stage 2: Scenario development and modelling based on a trajectory for decarbonisation in the Pilbara (March 2024 – May 2024)
- Stage 3: Assessment of the effectiveness and efficiency of the existing PNR in achieving the goal of decarbonisation in the Pilbara (May 2024 – March 2025)
- Stage 4: Implementation Plan for any necessary reforms to the PNR (March 2025 – May 2025)

To support the Evolution of the Pilbara Network Rules (EPNR) project, the PAC convened an EPNR Working Group with two workstreams to assist with the work on:

- the evolution and development of the PNR ('Workstream 1'); and
- the evolution and development of the Harmonised Trading Rules (HTR) ('Workstream 2').

Since the previous PAC meeting, both the PNR and HTR workstreams have met twice on 10 October, 24 October, 14 November and 21 November 2024 respectively. These meetings have focused on developing draft proposals for inclusion in the consultation paper, which are presented in **Attachment 1**.

The Meeting Papers and Minutes are available on the EPWA website with links below for members to read.

PNR:

- [24 October 2024 - Meeting Papers](#)
- [24 October 2024 – Minutes](#)
- [21 November – Meeting Papers](#)

HTR:

- [10 October 2024 – Meeting Papers](#)
- [10 October 2024 – Minutes](#)
- [14 November 2024 – Meeting Papers](#)
- 14 November 2024 – Minutes (**Attachment 2**)

It's recommended that PAC members read these materials before the 5 December 2024 PAC meeting.

The draft design proposals in **Attachment 1** include:

- an **integrated planning framework** to ensure system adequacy, with backstop procurement powers for the ISO.
- a **new trading and balancing mechanism**, providing connected parties and the ISO with new tools to manage increasingly variable supply and demand.
- **amendments to the essential system services (ESS) arrangements** to increase flexibility for system operations and improve incentives for connected parties to manage the need for these services.
- a **centralised outage planning process**, to increase transparency and consistency.
- **enhanced governance arrangements** for the Pilbara Independent System Operator (ISO), increasing its independence and transparency.
- clarity about the treatment of **storage technologies and demand side services** to allow them to contribute more effectively to Power System Security and Reliability in the Pilbara.
- a range of **changes to the HTR** to fill existing gaps and address known issues.

EPWA will provide a Draft Consultation Paper to the PAC (out of session), for further feedback prior to publication of the paper.

Once published, the period of public consultation will be open until late March 2025, as requested by Working Group members.

EPWA will meet with the Working Groups to discuss submissions (if necessary) and develop a Draft Implementation Plan. EPWA plans to provide an update on the draft Implementation Plan to the PAC at its next meeting on 1 May 2025.

Attachments

- (1) Draft EPNR proposals (PowerPoint presentation)
- (2) HTR Workstream – Minutes (14 November 2024)



Government of Western Australia
Energy Policy WA

Pilbara Advisory Committee

EPNR Project Proposals

5 December 2024

Working together for a
brighter energy future.

I. Power system security and reliability

1. Long term planning

Proposal:

- 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.
- Every two years, the ISO will prepare an integrated system plan for the NWIS, (the Integrated Pilbara Plan, IPP), including potential interconnections and new supply and demand sources.
- The ISO will consult on the assumptions and methodologies to be used in preparing the IPP.
- Input and output data for the IPP will be published for transparency.
- In years where an updated IPP is not published, the ISO will prepare a generation statement of opportunities including updated demand and capacity forecasts and taking into account network constraints.

The size and location of transmission, generation, and loads are critical factors in maintaining system reliability as the system decarbonises.

Evolving long-term planning arrangements will assist stakeholders, particularly potential investors, to efficiently focus their efforts.

Enabling the ISO to gather information outside the NWIS means the planning process can better account for potential new connections of both existing infrastructure and new developments.

2. Network reliability standard

Proposal:

- The default planning and operation standard for the NWIS will be n-1.
- Parts of the network can be planned and operated to a higher or a lower standard, with the agreement of affected parties.
- Network operators can use alternative, non-network solutions to achieve an n-1 standard.

In a power system dominated by renewables, connected parties become more dependent on each other's operations. Having a consistent planning and operation standard means that all parties know what to expect.

Traditional network investments will not be the most efficient way to achieve the standard in all circumstances.

3. Capacity forecasting

Proposal:

- The ISO will forecast capacity requirements for the NWIS, based on avoiding unserved energy in the event of expected one-in-ten-year peak demand and low renewable output, including a reserve margin to account for expected supply outages.

Having the ISO carry out system-wide forecasting ensures that there is clear responsibility for monitoring system conditions and potential capacity shortfalls. Providing transparency of forecasts and forecast methodologies increases confidence to current and prospective connected parties.

4. Individual capacity requirements

Proposal:

- The ISO will set the method for participants to calculate their required contribution to the capacity requirement.
- Participants can nominate part of their demand as non-firm, to be excluded from the firm capacity requirement.
- Participants do not have to account for consumption served by co-located generation.
- Participants will be required to have sufficient capacity to meet their capacity requirement.
- The final NWIS capacity target will be the sum of individual participant requirements.

Having a formal, structured approach to capacity assessment ensures that all parties are clear on their needs, and those needs are determined in a consistent way.

The rise of flexible demand (where consumption follows available generation, rather than the other way around) has the potential to significantly offset the volatility of wind and solar output. If it were not accounted for, capacity targets would be overestimated.

5. Capacity Certification – proposal

Proposal:

A participant can self-certify the capacity contribution of its own facilities if:

- energy from the facility will be used to serve its own consumption, and
- this supply will not be affected by network constraints

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.

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.

5. Capacity Certification - rationale

Central certification provides a reliable and transparent approach for parties who rely on others to supply capacity and energy.

There will be large volumes of self-supplied load in the Pilbara. Generation and consumption that does not use the network does not need to be accounted for in capacity planning.

Capacity certification methods for firm generation and storage are standard around the world. Using a probabilistic method for variable generation will allow the correlation of renewable facilities to be accounted for, as well as the weather dependent correlation between renewable output and load.

6. Backup capacity procurement

Proposal:

- 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
- Submissions will specify a \$/MW capacity price and a maximum \$/MWh balancing energy price.
- 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.
- The costs of capacity procured by the ISO will be allocated to the participants with individual shortfalls.
- Selected providers must offer energy in the balancing mechanism, with the energy price limited to the maximum price in the capacity submission.

Having a backstop mechanism to procure capacity provides confidence to current and prospective participants that the NWIS will continue to provide reliable supply in all reasonably expected circumstances.

A simple approach to capacity procurement, with costs allocated only to those who have a capacity shortfall, provides clear incentives for all parties.

7. ESS framework – proposal

- The two existing essential system services (ESS) will be retained.
- The existing “FCESS” service will be renamed “Regulation.”
- The existing “SRESS” service will be renamed “Contingency Reserve Raise”.
- When energy storage penetration increases, a new Contingency Reserve Lower service will be introduced to manage unplanned loss of load.
- Power system security will be managed by defined ESS requirements rather than by a minimum synchronous generation requirement.
- 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.
- The ISO will move to dynamic ESS requirements, and set different requirements at different times of day and times of year.
- The ISO may set locational ESS requirements for pre- and post-contingency management of the power system.
- The ISO will establish an ESS accreditation framework, and monitor compliance with standards for ESS provision.
- ESS will continue to be procured and provided under contracts, i.e., not through a dynamic mechanism.

7. ESS framework - rationale

These changes to ESS are consistent with the approaches used around the world to support the energy transition. A new load rejection reserve service ('Contingency Reserve Lower') will support the connection of large storage facilities. The need for an inertia service depends on the ride-through capability of existing generation and load equipment, which is not clear at this time.

Moving to more dynamic ESS requirements in the future would allow the ISO to target services to when and where they are needed, which will be more cost effective than a static requirement for all times and locations.

Effective delivery of ESS requires a party to assess facility capabilities, monitor compliance, and take action when performance does not match the requirement.

The limited number of facilities capable of providing ESS in the current Pilbara fleet is not sufficient to support procurement through a dynamic mechanism or closer to real time so, at this stage, it is efficient to continue to procure ESS via competitively procured, direct contracts until the depth of this capability increases.

8. ESS cost recovery

Proposal:

- ESS costs will be recovered from causers where practical, on a trading interval basis.
- Regulation costs will be allocated to participants who vary their generation or load from their balancing positions.
- Contingency reserve raise costs will be allocated to supply facilities based on their output in each interval, according to the runway method.
- Contingency reserve lower costs will be allocated to load based on their demand in each interval, according to the runway method.
- 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.

The proposed methods allocate ESS costs to those who cause the need for the service. Causer pays cost allocation provides incentive to reduce the quantity of ESS required, providing downward pressure on total system costs.

Allowing participants to avoid contributing to ESS costs if they do not cause a service requirement ensures that connected parties have the option to manage their own operations if they consider this to be more efficient.

9. System Strength

Proposal:

- The HTR will provide guidance on the setting of the minimum and maximum fault levels on the NWIS.
- The ISO will approve system strength requirements for different parts of the network.
- NSPs will support the ISO to determine the system strength requirements for locations on their networks.

System strength requirements differ across locations, so it is reasonable to allow each NSP to determine the appropriate levels for different parts of its network.

Where there are conflicts between settings in different places, the ISO is the obvious party to resolve the issue.

10. Outage planning – proposal

- The ISO will manage a centralised outage process.
- All registered facilities on an outage planning list will be required to participate.
- 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.
- Network and supply facilities will submit outage plans to the ISO.
- Outages of unregistered facilities or those not on the outage planning list must be notified to the ISO, but do not require approval.
- Outage requestors must consult with affected parties before submitting outage requests to the ISO.
- If a network outage would affect power system reliability the network operator must include a plan to mitigate the reliability impact.
- The ISO must develop an outage assessment framework procedure containing a risk-based outage assessment framework, in consultation with connected parties.
- The ISO must assess outages according to the assessment framework and must approve outages unless doing so would have a material impact on PSSR.

10. Outage planning – rationale

A common outage planning and publication process is key to transparency, and to manage an increasingly interdependent power system in which parties rely on each other to maintain security and reliability.

Maintaining self-scheduling for outages that do not affect other parties maximises flexibility for vertically integrated portfolios.

11. Outage plan - timing

Proposal:

- Outage plans must be submitted as soon as practicable, and no later than a year in advance.
- The ISO must assess and approve or reject an outage plan within two weeks of its receipt.
- 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.
- The ISO can only withdraw approval for a previously approved outage plan if there is a risk to power system security or reliability, and must inform the requestor as soon as practicable.
- 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.

Clear timeframes for outage information provision and approval are necessary for effective operation of the outage management process.

Sometimes, short notice changes will be unavoidable. If these occur to maintain system security for everyone, it is reasonable to compensate affected parties for the costs of the change.

II. Scheduling and dispatch

12. Balancing mechanism (1)

- The ISO will operate a day-ahead trading mechanism in which participants can trade energy around their bilateral positions in half hour increments.
- Participants must nominate:
 - Planned consumption by their portfolio loads
 - Planned supply by portfolio generation and storage, including contracted supply from other parties
 - Expected dispatch order for facilities in their portfolio
- Nominations must balance.
- Participants may choose to offer to deviate from their initial position, by making \$/MWh bids (to sell energy) and offers (to buy energy).
- The ISO will clear the day-ahead trading mechanism.
- Trading positions and prices will be determined a day-ahead of real-time.
- Traded energy will be settled at the marginal clearing price at the point supply offers and demand bids intersect.

12. Balancing mechanism (2)

Proposal (continued):

- During the trading day, the ISO will designate and dispatch balancing facilities according to their bids and offers.
- The ISO will determine a balancing price for compensating the balancing facilities based on the marginal price of the last facility dispatched.
- Balancing energy will be settled at:
 - for additional energy dispatched from balancing facilities, the balancing price; and
 - for uninstructed imbalances (from trading outcomes), the balancing price multiplied by a penalty factor. Penalty factors will be different for negative imbalances and positive imbalances.

Centrally coordinated trading and balancing arrangements provide tools for participants and the ISO to manage increasing generation volatility, reducing the need for each participant to build flexible capacity to smooth the volatility of its renewable generation portfolio. It will simplify complex multi-party nominations and allow more responsive and cost-efficient dispatch closer to real-time.

Separate trading and balancing arrangements are proposed because feedback from stakeholders indicates that current operational practices require significant lead time for most parties, meaning a day ahead trading mechanism is preferred initially. A separate but related balancing mechanism is included because there can still be significant changes to load and variable generation and using only ESS to keep the system within limits would require significantly higher volumes and costs.

Operating on a portfolio basis allows participants to continue to manage their own generation, and requiring a portfolio merit order allows the ISO to account for network congestion in its dispatch process.

Including penalty factors provides another incentive for participants to stick to their balanced positions.

13. Metering

Proposal:

- Content and timing requirements for meter data submissions will be moved from the Energy Balancing and Settlement Procedure to the PNR.
- Meter data format specifications will remain in the Energy Balancing and Settlement procedure.

Meter data submission is part of the settlement process. It is appropriate for definitions, timeframes and high-level process steps to be included in the rules, rather than in a delegated instrument. This provides for clarity and certainty for participants and data providers.

14. Manual load shedding plan (1)

Proposal:

- Participants must use best endeavours to manage their portfolios to balance their consumption and supply according to the trading and balancing mechanism provisions.
- 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.
- 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.
- 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.
- If load shedding is required, the ISO must endeavour to follow the load shedding priority list.

14. Manual load shedding plan (2)

Proposal (continued):

- 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 consumption.
 - Consult with NSPs and other connected parties to ensure the priority list is practical.

A pre-existing plan means participants have a shared understanding of what will happen in the event of a supply shortfall.

III. ISO governance

15. ISO functions

Proposal:

- Over time, the remit of the ISO will expand to cover additional functions.
- The ISO will take control room functions in house by January 2027.

Independent performance of a wider range of functions is critical to support third party access and investment.

Current arrangements restrict the ability of the control desk to access information about power system operations. Moving the control desk inside the ISO would reduce some of the competition concerns and allow the ISO to perform its core function.

16. ISO board

Proposal:

- The ISO board will continue to have five members, including a Chairperson and the Pilbara ISO Chief Executive Officer (CEO, Managing Director).
- ISO directors must be independent of participants.
- To be appointed, any new Director must meet selection criteria, including any requisite skill requirements.
- Directors will be appointed for staggered three-year terms, with eligibility for reappointment twice.
- ISO cost recovery should be amended at the same time as board composition changes.

An independent ISO is critical to support third party access and investment.

Current arrangements require exemption from the ACCC to comply with competition law.

Current ISO fee allocation is consistent with NSP board representation and control, but the proposed fee allocations (see proposal 18) are not.

17. ISO budget

Proposal:

- The ISO board must consult on a draft budget.
- The ISO board will set the ISO budget annually.
- The ISO budget will be subject to review and approval by the Economic Regulation Authority.

To safeguard efficiency of, and fair allocation to, ISO operations, the ISO budget needs to be subject to review and approval by a third party.

18. ISO Fees

Proposal:

- ISO costs will be recovered from participants based on gross injection and withdrawal figures into and from the NWIS.
- The fee (in \$/MWh) will be determined annually.
- Fees will be recovered in each settlement period.
- The approach to ISO cost recovery will be changed at the same time as the board composition is changed.

ISO costs should be borne by all parties who use the power system. As new parties connect, current cost allocation methods will become increasingly unfair. This proposal brings the recovery of fees in the NWIS in line with other networks.

19. Information – proposal

- Information will be public unless there is a compelling reason for it to remain confidential.
- Public information will include outage schedules, demand forecasts, generation schedules, capacity figures (both supply and demand) and balancing quantities.
- The PNR will designate certain information as confidential (for example: terms, conditions and prices in bilateral contracts).
- 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 PNR specified criteria for being confidential, in accordance with an ISO procedure.
- Disputes about classification of information will be resolved by the Coordinator of Energy.

19. Information – rationale

Transparent access to information is key to efficient operations. If participants have access to data on the power system they can better plan their operational strategies. Transparency measures should apply to all parties equally to provide a level playing field.

Requiring NSPs to share operational data with the ISO enables the ISO to effectively operate the power system and maintain PSSR.

Transparency improves the perception of independence of the ISO.

Confidential information should be protected in appropriate circumstances.

20. Compliance monitoring

Proposal:

- The ISO will monitor participant compliance with the PNR, including the HTR.
- Initial focus areas for ISO monitoring will be portfolio balancing, dispatch compliance, and ESS performance.
- The ISO will publish quarterly compliance reports on the activities it monitors.
- The ERA will continue to monitor behaviour, with additional focus required from the start of the balancing mechanism.

As the Pilbara networks move towards more integrated arrangements, connected parties need to be able to rely on each other's compliance with the PNR, including the HTR. The PNR must include a framework for monitoring and reporting on compliance of connected parties.

21. Compliance enforcement

Proposal:

- The ISO will be able to issue formal warnings and requests for non-compliant parties to return to compliant operation
- The ISO will be able to refer non-compliance to the ERA for investigation
- 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.
- 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.
- Disconnection will remain as a sanction of last resort.

The proposed suite of remedies for non-compliance will allow more effective enforcement of compliance with the PNRs, in line with other networks, which will assist the maintenance of security and reliability for all parties connected to the system.

IV. New connections

22. NSP to NSP connection arrangements

Proposal:

- The PNR will include a process for the interconnection of additional networks to the NWIS.
- The ISO will manage the connection process for new networks, and for new interconnections between existing networks.
- Connecting networks must show compliance with Chapter 2 of the HTR.
- Generation, storage, and load facilities on the connecting network must demonstrate compliance with Chapter 3 of the HTR.
- Connecting network infrastructure established for the purpose of the participant serving only its own facilities may opt to demonstrate compliance at the interconnection point to the NWIS.

The unusual nature of the Pilbara electricity sector means that new connections can be more complex than in most other electricity systems. Providing transparent rules for how to handle the interconnection of existing infrastructure will smooth the process for sharing infrastructure.

Having the ISO manage the interconnection process for new networks provides a level playing field for parties that may compete with existing NSPs.

23. Preferential supply for transmission foundation customers

Proposal:

- Foundation customers of transmission infrastructure will be entitled to firm supply for their loads when using the network components they have funded.
- Foundation customers of transmission infrastructure will be allocated energy from other sources if their generation is constrained in balancing.
- Foundation customers of transmission infrastructure will be settled without imbalance penalties if their dedicated generation is constrained after trading positions are finalised.

Transmission investment and generation investment go hand in hand. Giving foundation customers of transmission infrastructure priority for the use of that infrastructure will reduce their uncertainty about the ability to continue to benefit from this investment.

If the Pilbara had locational pricing, this could be done by allocating a financial transmission right for the funded asset, but with a single zonal price, that is not possible, and physical preferential access will be more cost effective than providing constrained payments. Similarly, preferential dispatch for foundation generation could be more easily implemented in a security constrained economic dispatch environment, which is not proposed for the Pilbara at this stage.

24. Self-contained networks – proposal

- 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 the same participant.
- Network operators who intend to provide network services to third parties will be required to comply with chapter 2 of the HTR.
- 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 interconnection point with the NWIS), or a network (compliance of all facilities within the network).
- 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
- 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.
- 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.

24. Self contained networks – rationale

Allowing connected parties to manage their own processes is an important part of the approach to Pilbara operations, as long as it can be done without affecting other connected parties.

It is not necessary to require self-contained networks to comply with technical rules that support third party access.

Providing visibility of connected equipment to the ISO supports power system security.

25. Storage participation

Proposal:

- Controllers of storage works above 5 MW must register their facilities.
- A new defined term 'Energy Producing System' will be added to encompass generation and storage facilities.
- Rules that refer to generation only will be broadened to refer to Energy Producing Systems.
- Technical requirements for storage works will be added to Chapter 3 of the HTR.

Storage is an important enabler for the connection of increased renewable energy. Allowing storage to participate fully under the PNR will increase the revenue streams available to it, and the overall efficiency of the system operations.

26. Demand side participation

Proposal:

- Load participation in the PNR will be focused on ESS provision and providing mechanisms for flexible load to take advantage of available variable renewable energy.
- 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.
- Owners of flexible loads can bid in the proposed trading mechanism to purchase additional energy, and then manage their load to match their position.
- Owners of flexible loads will be allowed to contract with the ISO to provide Contingency Reserve Raise as interruptible load.

Historically, the electricity sector has seen generation as a flexible resource to meet inelastic demand. In a power system with large volumes of variable renewable resources, flexible demand will have greater opportunity to access inexpensive energy much of the time and will see greater incentive to respond at short notice.

The proposed arrangements for capacity adequacy and balancing include the ability for participants to leverage load flexibility at portfolio level. This proposal lays groundwork for real-time demand response when it arrives.

V. Development of the Harmonized Technical Rules

27. HTR standards

Proposal:

- The HTR will set a default standard for “automatic qualification”.
- NSPs will not have technical standards for connections in addition to the HTR.
- In the medium term, the HTR will set a minimum standard for connection.
- Connection will not be allowed for equipment that falls short of the minimum standard.

The HTR are intended to function as a single, end-to-end technical power system standard for all networks and equipment connected to the NWIS. Allowing automatic rights of connection to parties meeting the standard is a key principle of open transmission access, to enable the evolution of the Pilbara.

28. HTR negotiation framework - proposal

- 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).
- The ISO may provide guidance for acceptable bounds of negotiation, evidence, and mitigation measures.
- NSPs must publish estimated and actual timeframes for connection assessment activities in their control.
- 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.
- NSPs and the ISO must publish agreed deviations from the default standard (whether above or below the standard).

28. HTR negotiation framework - rationale

If a connecting party does not meet the default standard specified in the HTR, it can affect other connected parties. The ISO has responsibility for the security and reliability of the whole power system, so the ISO must be the final approver of deviations from standards.

At the same time, providing visibility to the ISO behind the connection point will enhance the ISO's ability to operate the power system securely.

Requiring publication of agreed deviations from the standard aligns with the transparency objectives.

*We're working for
Western Australia.*



Minutes

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|-----------------------|---|
| Meeting Title: | Evolution of the Pilbara Network Rules (EPNR) Working Group (Workstream 2- HTR) |
| Date: | 14 November 2024 |
| Time: | 9:30 AM – 11:30 AM |
| Location: | Online, via TEAMS |

| Attendees | Company | Comment |
|----------------------|--------------------------------|---------|
| Dora Guzeleva | Chair, Energy Policy WA (EPWA) | |
| Tim Robinson | Robinson Bowmaker Paul (RBP) | |
| Nik Walker | APA | |
| Rebecca White | BHP | |
| Lekshmi Jaya Mohan | BP | |
| Anthony Guevarra | CITIC Pacific Mining | |
| David Stephens | Horizon Power | |
| Peter Van Den Dolden | ISOCco | |
| Scott Hiscock | Woodside | |
| Laura Koziol | EPWA | |
| Luke Commins | EPWA | |
| Tom Coates | EPWA | |
| Ajith Sreenivasan | RBP | |
| Eija Samson | RBP | |
| James Seidelin | RBP | |

| Item | Subject |
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| 1 | <p>Welcome and Agenda</p> <p>The Chair opened the meeting with an Acknowledgement of Country.</p> <p>The Chair noted the Competition Law Statement, and reminded members of their obligations and encouraged them to raise any Competition Law issues with her if they arise.</p> <p>The Chair highlighted that this was the final meeting for the working group for the calendar year and noted that the primary objective was to finalise the recommended actions for the HTR Issues identified by the group.</p> |
| 2 | <p>Meeting Attendance</p> <p>The Chair noted the attendance as listed above, including apologies from Ms Anderson (ERA), Mr Michelson (Rio Tinto) and Mr Miilo (BHP).</p> |
| 3 | <p>Minutes of Meeting 2024_10_10</p> <p>The working group approved the Minutes as circulated with the meeting papers.</p> |
| 4 | <p>Action Items</p> <p>The Chair reviewed the action items in the register. She acknowledged Action Item 1 and confirmed EPWA's intent to provide members with a copy of the HTR content in the draft consultation paper for feedback, shortly before the draft consultation paper is provided to the PAC.</p> <ul style="list-style-type: none"> • Mr Van De Dolder addressed the second action in the register, advising that the ISO's functions and funding allocations did not accommodate studies for revised facilities' ride-through requirements. He noted that the ISO could lead this work if it receives additional funding, resources and internal approvals. <p>The Chair suggested that funding and responsibility for this study should be considered as an early implementation plan activity.</p> <ul style="list-style-type: none"> • Mr Walker addressed the third action in the register, advising that APA's concerns had been clarified in the relevant Issue Paper (Issue 29) included in the meeting materials. |
| 5 | <p>HTR Issues Workbook</p> <p>The Chair acknowledged correspondence from Mr Stephens requesting further discussion on the WEM (Wholesale Electricity Market) Power System Security and Reliability (PSSR) Standards Review work and its applicability to the NWIS, as well as a clarification on the position regarding automatic versus minimum versus negotiated standards in the HTR.</p> <p>The Chair reflected on the PSSR Standards Review content presented at the last meeting, and the material circulated to members afterwards. She reiterated that the materials focus on how system strength issues are forecast and who is responsible for producing the forecasts.</p> <p>The Chair summarised Mr Stephen's feedback that the direction of the PSSR Standards Review could translate well to the NWIS, and that an early implementation activity should be to consider the extent to which the PSSR proposals are applicable and could be adapted for the Pilbara.</p> <ul style="list-style-type: none"> • Mr Stephens agreed in principle with the summary of his views. • Mr Walker emphasised a need to frame this "as far as practicable" rather than 'as applicable', due to the differences between the two power systems, but otherwise agreed with the proposal. • Mr Van De Dolder questioned whether forecasting should be handled by NSPs or the ISO, noting that the aim is to avoid duplication of work and additional costs. |

Item**Subject**

- Mr Walker noted that fault levels can be influenced by other networks. He acknowledged that NSPs could produce the forecast but considered that the ISO should have a role in providing guiding principles and scenarios.
- Mr Van De Dolder agreed and indicated that this aligned with the current rules. He added that, given some networks are small, the ISO would have to undertake most of the forecast process alongside the NSPs and, as such, it may be efficient for the ISO to have responsibility for system strength forecasting.

The Chair agreed that ISO has a role to play in long term planning. She highlighted that the unsolved question of who would be responsible for fixing system strength problems once they emerged.

The Chair reiterated that answering these questions would be early implementation activities and noted the group's consensus to consider the PSSR Standards Review as the starting point for those inquiries.

The Chair recapped discussions on automatic versus minimum standards. She outlined that the HTR would be based on an automatic standard that, once satisfied, assured connection applicants of access. She explained that this did not preclude requests for, or negotiation of, a lower standard. The Chair noted that, in due course, minimum standards would be developed below which negotiations could not happen.

The Chair said that negotiations could either go below the automatic standard, provided agreement with the NSP had been reached, or that the NSPs can also request a higher standard than the automatic. However, if the access seeker did not agree to meet a higher standard, the automatic standards would provide a backstop to prevent prolonged negotiations and disputes.

She emphasised that any negotiated standard would need to be transparent to provide confidence and promote accountability in the Pilbara regime.

- Mr Stephens proposed including minimum standards in the development roadmap and considering interim measures for compliance oversight.

The Chair outlined that the ISO should play an oversight role in negotiations impacting PSSR, and the consultation paper would propose a dispute resolution mechanism.

- Mr Walker asked for further guidance and clarification for when the negotiating NSP would need to consult with the ISO, and when they would have discretion to agree deviations from the automatic standards.
- Mr Van De Dolder noted that the ISO would consider and respond to a party's request to be involved in an access negotiation. He agreed that the ISO should have an oversight role and publish guidance to assist NSPs to identify when they have discretion (i.e. location-based matters). In negotiations that affect the security of the wider system, the ISO must have a final say.

The Chair agreed that the ISO must be empowered to reject arrangements that may threaten system PSSR.

Mr Robinson facilitated a discussion on all Issues listed in the HTR meeting workbook (circulated 7 November 2024), to finalise recommendations for inclusion in the consultation paper.

A draft copy of the consultation summary table was circulated to members for comment and feedback on 02 December 2024. A final version will be published alongside these Minutes as a record of the meeting.

Two specific actions from this discussion are recorded in these Minutes to assist with project management.

ACTION: EPWA will contact Mr Michelson for any further updates on proposals for Issues 3, 44 and 45, and, if necessary, circulate revised recommendations to the working group.

ACTION: EPWA to circulate papers and proposals for Issues 35 and 38 to the working group.

7 Next Steps

Mr Robinson asked if there were any items left to be discussed that were not already raised. He indicated that any new issues would not be addressed in the consultation paper but could be captured in the implementation plan.

- Mr Van De Dolder suggested formalising the treatment of non-synchronous systems in the HTR.

The Chair asked if members had contemplated a move away from the term “generating systems” to “energy producing systems” to cover storage projects.

- Mr Van Der Dolder explained that clause 3.7 in the HTR allowed NSPs and the ISO to treat storage works as generating facilities during injections and as consumer facilities during withdrawal, and that this approach was workable and had been applied to several projects. He indicated that, for now, it is workable for the ISO and NSPs. However, eventually, a new section in the HTR for storage would be needed as recommended in the Issues Paper 8.

Mr Robinson added that the PNR workstream would amend Chapter 3 of the PNR and other parts of the rules to facilitate the participation of storage. He noted that this would include introducing the term ‘energy producing systems’, which would cover both generation and storage, while the proposed changes to the HTR would address more specific issues.

- Mr Walker raised the concern that, while the HTR had evolved around synchronous machines that had no inherent cost to provide short term overload, applying the same rules to semiconductor-based systems, which would have significant costs to achieve overload, did not align with the cost efficiency objectives.
- Mr Walker also mentioned issues with high voltage and frequency events and expectations of overload capability leading to disconnection of equipment. To that end, he wanted to know if others in the Working Group had raised or recognised that as an issue to be addressed.

The Chair acknowledged the issues raised by Mr Van Der Dolder and Mr Walker and asked them to provide a brief written summary of these issues to assist EPWA to capture these issues’ descriptions in the implementation plan.

The Chair indicated that another new issue for the working group to consider was where compliance with the technical standards should be applied, i.e. whether it is at the connection point with the NWIS or at individual pieces of equipment behind the connection point.

- Mr Van Der Dolder clarified that, in the HTR, compliance was already at the connection point for generator requirements unless specified otherwise. However, Mr Van Der Dolder recognised that further clarity for non-synchronous facilities may be required.
- Mr Walker agreed that further clarity is required in the HTR to show that compliance was at the connection point and that exceptions should be listed if a different assessment is required, noting that for current synchronous equipment the performance or voltage measurements is at the terminals.
- Mr Stephens noted that there are different types of connection points, which include the connection point of a generator and the connection point between networks, using the example of Woodside network equipment being connected to the Horizon Power network. To avoid confusion and to ensure accurate compliance with the Rules, the

| Item | Subject |
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| | <p>different types of connection points need to be defined clearly and approached differently.</p> <ul style="list-style-type: none"> Mr Walker agreed with Mr Stephens' concern, using the example of a 'hybrid system' for which solar, wind and batteries are treated as one entity. <p>The Chair stated that this was an important issue to be discussed and addressed before hybrid facilities with co-located storage components became more common in the Pilbara.</p> <ul style="list-style-type: none"> Mr Stephens asked what the next steps were for this working group. <p>The Chair outlined that the consultation period would be extended beyond February.</p> <p>The Chair indicated that this working group may need to reconvene to discuss any submissions made; if any essential rule changes to the HTR were required in advance of the implementation plan; and, of course, to provide input into the development of an implementation plan.</p> <p>The Chair reiterated that this was the final meeting of the HTR Working Group for the year and thanked all the members for their time and contributions. She commended members for their positivity and productive input, noting that significant progress had made on several HTR issues.</p> |
| | <p>ACTION: Mr Van Der Dolder and Mr Walker to provide brief summaries of the Issues raised in discussion to ensure they are addressed in the implementation plan.</p> |

The meeting closed at 10:56am.

Agenda Item 6: Meeting Schedule for 2025

Pilbara Advisory Committee (PAC) Meeting 2024_12_05

1. Purpose

PAC members to approve the schedule for the PAC's 2025 meetings.

2. Recommendation

That the PAC considers and approves the proposed PAC meeting dates for 2025.

3. Process

The PAC usually meets every ten weeks, commencing in February of each year. The PAC Secretariat has developed, in consultation with the Independent Chair, the proposed schedule for the 2025 PAC meetings. Where practicable timing of these meetings avoids caretaker period, public holidays and school holidays.

Due to the limited availability of the Independent Chair in the mornings, the 2025 PAC Meetings will be scheduled for 1:30pm on Thursdays.

The PAC is asked to consider and approve the proposed schedule for the 2025 PAC meetings.

| Month | Proposed PAC Meetings |
|---------------|-------------------------------------|
| May 2025 | 1:30pm on Thursday, 1 May 2025 |
| June 2025 | 1:30pm on Thursday, 26 June 2025 |
| August 2025 | 1:30pm on Thursday, 28 August 2025 |
| October 2025 | 1:30pm on Thursday, 30 October 2025 |
| December 2025 | 1:30pm on Thursday, 4 December 2025 |