Department of Energy and Economic Diversification

GOVERNMENT OF WESTERN AUSTRALIA

Energy Policy WA

Evolution of the Pilbara Networks Rules (EPNR) Working Group (PNR Workstream) - Minutes

Date:	14 October 2026
Time:	09:30am – 12:35pm
Location:	Level 1, 216 St Georges Terrace and Teams

Attendees	**Company**	**Comment**
Peter Van Den Dolder	Chair, Pilbara ISOCo	Attended online
Helen Todd	Stratsys	ISO consultant - Presenter
Summa McMahon	Pilbara ISOCo	
Neil Gibbney	Pilbara ISOCo	
Guy Tan	Horizon Power	
Noel Michelson	Rio Tinto	
Lizzie O'Brien	APA	
Shane Potter	APA	
Nathan Kirby	BHP	
Glen Carruthers	Fortescue	
Herman Prinsloo	Fortescue	Alternate for Ken Chong
Dora Guzeleva	EPWA	
Other attendees	**From**	**Comment**
Alex Jones	TransAlta	
Maurice Ryan	Horizon Power	
Paul Grey	APA	
Shane Ashworth	Horizon Power	
Rory Hannon	EPWA	
Sean McAvoy	EPWA	
Tim Robinson	EPWA	Presenter
Melinda Anderson	ERA	Observer
Matt Bowen	Energy Transformation	ISO consultant – Competition Advisor
Alistair Duffy	RBP	
Eija Samson	RBP	
Dylan Gaunt	Pilbara ISOCo	
Abdul Al-Oraimi	Pilbara ISOCo	
Jobin James	Pilbara ISOCo	
Apologies	**From**	**Comment**
Ken Chong	Fortescue	On leave

1. WELCOME

Dr Todd opened the meeting with an Acknowledgement of Country.

2. MEETING APOLOGIES AND ATTENDANCE

Meeting attendance was noted as listed above.

3. COMPETITION LAW

Mr Bowen reminded members of their obligations under Australian Competition Law, noting that the meeting is not relying on an ACCC authorisation and that each member is responsible for remaining compliant. He also reminded members of their ring-fencing and confidentiality obligations, which Working Group members acknowledged.

4. PROPOSED OUTAGE COORDINATION PROCESS

Dr Todd presented slides 5–14, noting that the purpose of the workshop series is unchanged. The proposed rule changes would primarily provide the ISO with the authority to further develop elements such as the equipment list and risk framework in consultation with participants. The level of detail presented is intended to provide members with sufficient confidence in granting these powers. The key assumptions also remain unchanged without making any changes to Rule 5 for integrated mining networks and existing carve-outs for Pluto, while minimising the need for ACCC authorisation.

Dr Todd noted that a pathway for urgent outages and associated rule drafting had not yet been included, as the proposal had changed substantially in response to member feedback and requires further consolidation. These items would be presented in the next meeting. Dr Todd then summarised the outcomes of the previous workshop and outlined how member feedback had been addressed in the slide pack. No concerns were raised by the group on the previous meeting minutes.

Planning criteria and outage coordination

The Chair presented slide 16, providing ISO's interpretation of the role of planning criteria in outage coordination. He noted that planning criteria focus on reliability rather than security, and that a planned outage on one NSP's network might create risks for another NSP, even if both NSPs are compliant with their respective planning criteria. Outage coordination is needed to bridge this gap.

The Chair advised that the ISO had considered whether the planning criteria interaction mechanism in the Rules could be used to support outage coordination and concluded that it was not appropriate. He noted that this would require forecasting and assessing every planned outage that could result in an interaction and repeating the process whenever the planning criteria changes. It also fails to address non-network outages, including generation outages, and does not resolve differences in risk appetite between NSPs. Furthermore, the mechanism was designed to address fundamental differences in planning criteria (for example, N-1 versus N-0).

- Mr Carruthers considered that, under good electricity industry practice (GEIP), planning criteria should cover non-network outages such as generator outages, and questioned whether the issue is due to the inadequacy of the existing planning criteria.
- Mr Tan noted that, although each NSP has its own planning criteria, all NSPs and connected parties are required operate under the same frequency operating standard as per the HTR, which could help in assessing the risks of planned outages.

The Chair clarified that planning criteria address only a subset of risks and do not cover some outage planning risks, such as post-contingent risks (e.g. whether there is sufficient generation to recover the system in a timely manner).

- Mr Carruthers noted that credible contingencies are not clearly defined, leading to differing views on whether events such as transformer outage should be considered as a credible contingency.

- Ms Guzeleva noted that network planning criteria and outage planning are distinct concepts and considered that short- to medium-term planning to support outage coordination may be lacking, together with definitions of credible and non-credible contingencies and transparency regarding how outage coordination will be undertaken.
- Mr Ryan noted that the Rules already contemplate planning criteria interactions, citing Rule 72 as an example where a transmission element is out of service, and considered that the question is whether the residual risk is acceptable or whether further mitigation is required.

The Chair agreed, noting that while the mechanism empowers the ISO to develop protocols and procedures, it does not resolve the fundamental issue of inconsistent risk appetites influencing decisions which might impact other participants.

ISO's role in outage approval

Dr Todd presented slides 18-20, and noted the concerns raised at the previous workshop regarding ISO approval of outages. She explained that outages would generally proceed on a notification basis. This would apply where the outage can be managed within the NWIS risk appetite and the required mitigations are within the NSP's control without any scheduling conflicts. Coordination may be required where an outage cannot be managed within the agreed risk appetite, unreasonable costs for proposed mitigations, or the required mitigations are outside the outage requester's control. Dr Todd asked members how these cases would be resolved in the absence of an ISO approval role, noting the potential for repeated consultation cycles or for the acceptance of risk by one participant to adversely affect another.

- Mr Ryan reiterated that the NSP should retain the right to approve its outages, consistent with GEIP. He supported a common risk framework, with NSPs collaborating on mitigations and the ISO assessing those mitigations and directing additional ESS when required, rather than deferring outages. He also supported retaining the ACCC authorisation for the System Coordination Meeting. Mr Grey agreed with Mr Ryan.
- Mr Carruthers questioned the criteria against which outages would be assessed, noting that the link between the Rules and the decision-making process is unclear.
- Mr Grey considered that the issue mainly relates to transmission elements critical to NWIS security. He suggested that NSPs apply an agreed risk framework and associated controls to reduce risk to an agreed acceptable level, with the ISO's intervention where required, for example procuring additional SRESS to reduce the risk to the agreed level.
- Mr Tan noted that Horizon Power currently assesses busbar outages against the frequency operating standard (e.g. UFLS stage 1 or 2) and presents the risk assessment and mitigations in the System Coordination Meeting. Where the residual risk is unacceptable to another network, the ISO could intervene by procuring additional ESS or limiting the size of the credible contingency.
- Mr Carruthers considered that, in the absence of a defined and documented acceptable risk level, the ISO may take a more conservative approach and procure additional ESS, with the costs passed on to the participants. He suggested that these decision-making criteria be documented in the Rules consistent with the GEIP, so outages can proceed with minimal interventions.

The Chair noted that the risk framework and equipment list proposed as part of the rule change are intended to provide this guidance and support consistent and transparent decisions. He added that most outages should be straightforward, and that independent decision-making may be required when parties' risk assessments differ.

- Mr Tan provided an example of Horizon Power's outage that could affect FMG's network and noted that the associated risks could be reduced through advance coordination and agreement on mitigation measures.

- Mr Ryan noted that only a few sets of outages are contentious and cautioned against capturing every contingency in the Rules. He also considered that maintaining a fully secure system for every outage would be cost-prohibitive.

Dr Todd summarised that members generally supported the ISO applying mitigations in limited circumstances under clear decision rules, rather than approving planned outages.

- Mr Grey agreed, noting that the ISO should be able to implement measures to reduce risk to an acceptable level without over-procuring ESS, and to accept risks that cannot reasonably be mitigated. He suggested that NSPs submit inherent and residual risk assessments against agreed criteria, with outages proceeding where the criteria are met and further discussion required otherwise.
- Ms Guzeleva noted that, in other markets, NSPs coordinate outages with connected parties well in advance, enabling major loads and generators to schedule outages accordingly and proactively mitigate associated risks.
- Mr Carruthers suggested that the ISO should have the ability to implement controls without preventing outages from proceeding, while limiting its powers to procure additional ESS to remove the underlying issue.

The Chair noted that the Pilbara Electricity Objective already requires the ISO to balance risk reduction against cost.

- Mr Carruthers mentioned that this objective is vague and requires a well-defined standard.

Equipment list

The Chair presented slides 22–28, noting that that the proposed equipment list approach had shifted from a fixed list of equipment to a list assessing functional impacts. An outage owner would assess whether an activity affects system operation or removes capabilities relied upon for redundancy, reliability or capacity, such as visibility to the ISO Control Desk, generation-load balancing capability, transmission voltage control, multiple generating units being out of service, testing and commissioning activities, and activities requiring coordination with another NSP. He noted that this is a yes/no screening step that provides guidance currently absent from the Rules and responds to a finding of the Nov 2025 blackout investigation.

Dr Todd noted that the list would not be included in the Rules. Instead, the Rules would set out the powers to develop and maintain the list, including a materiality threshold and supporting principles.

The Chair outlined three types of activity:

i. Type 1 - Loss of functionality (e.g. a transmission line or generating unit outage)
ii. Type 2 - Loss of redundancy (e.g. redundant DC supplies, gas pressure skids or communication pathways) - It may result in a non-credible contingency becoming a credible contingency
iii. Type 3 - Testing or commissioning - It may may introduce power system instability

- Mr Ryan considered that the focus should be on effective controls. Referring to the November blackout event, he noted that the controls in place were ineffective and cautioned against over-procuring ESS for risks that could be adequately managed through appropriate controls, which drives towards an N-1-1 standard.

The Chair clarified that the workshop series is focused on developing a process for submission to EPWA, rather than defining credible contingencies or the NWIS risk appetite, with the detailed framework to be developed through further consultation. He added that the placement of the list would be discussed at the next workshop.

- Ms Guzeleva considered that the list itself should sit outside the Rules due to its evolving nature, but the criteria and principles used for its development should be included in the Rules to provide certainty to existing and new participants

- Mr Carruthers noted that power system issues usually arise from multiple concurrent events and questioned who would populate the list and determine the required contingency level for assessment.

The Chair explained that the ISO would undertake scheduling conflict checks by layering concurrent outages and applying the same risk framework and appetite. He clarified that the list is a filter to identify functional impacts, rather than a risk-based assessment.

- Mr Ashworth mentioned that the list is akin to a hazard identification step in a safety risk assessment.
- Mr Tan considered that the drafted list captures almost everything and suggested restricting the list to the most critical elements
- Mr Carruthers suggested excluding redundant systems, such as duplicate protection systems and redundant AC/DC supplies, from the list.

The Chair clarified that redundancy items are limited to equipment in generation or storage facilities greater than 10 MW where an outage could create a new single point of failure, reflecting two load-shedding events in the past two years. He noted that the HTR already address redundancy of protection schemes.

- Mr Ryan queried why the list could not be derived from the elements specified in Rule 96

The Chair advised that a comprehensive equipment list was considered too administratively burdensome at the last workshop.

- Mr Ryan noted that clearer criteria are needed to determine which outages warrant a risk assessment, given that most outages presented at the System Coordination Meeting are not discussed.
- Mr Kirby was broadly aligned with materiality threshold and noted that equipment such as a 132kV breaker, isolator or CT/VT within a transformer circuit supplying a 33kV switchboard may fall outside the proposed threshold.
- Mr Michelson supported specifying the relevant equipment to reduce ambiguity but noted that the list requires further refinement for integrated mining networks. He cautioned against a light-handed approach becoming overly prescriptive and enquired whether ISO's involvement would be based on inherent or residual risk and encouraged the use of real-world examples. He added that his organisation already has a robust outage planning processes involving consultation and coordination with multiple stakeholders.

Risk framework

The Chair presented slides 30–36, outlining the proposed risk framework based on the risk matrix in the ISO's Compliance Procedure. The Chair explained that the outage owner would identify PSSR risks, assess the inherent risk, apply mitigations within its control, and then assess the resulting residual risk. Where the residual risk is within the agreed risk appetite, the outage would proceed following ISO's verification. Otherwise, the ISO would verify the mitigations and determine any additional ESS or constraint requirements. Additionally, the ISO would undertake scheduling conflict checks for all outages.

The Chair noted that the ratings shown are illustrative and the risk appetite would be subject to broader consultation. Under the proposed causer-pays hierarchy of controls, outage owners would first exhaust their own control measures (e.g. rescheduling, redispatch, alternative fuels, third-party supply or returning to service overnight) before escalating to ESS or a constraint rule.

- Ms O'Brien asked what new power the ISO requires, given its existing use of a risk matrix.

The Chair advised that the ISO currently has no function or power to make binding risk assessment decisions on planned outages, or to override an NSP's risk assessment or outage. The ISO is seeking a requirement for outage owners to undertake a risk assessment for outages that pass the initial filter, with the ISO verifying it against the risk framework.

- Ms O'Brien noted that, without this, the ISO would need to rely on its emergency powers, which may be too late.
- Mr Grey considered that the equipment list must be succinct and indicated that UFLS stage 1 may be an acceptable risk.

Dr Todd noted that this is not a decision is not required at the moment but would be a useful starting point for consultation.

- Mr Tan supported the framework in principle but considered that the ISO's risk appetite, and the requirement for higher controls such as ESS where risk remains above moderate, need further discussion, as the framework must be fit for purpose for the current network design.

Ms McMahon noted that the ISO intends for the risk framework and appetite to be set in a procedure developed in consultation with participants, with the Rules setting out both the powers and the guardrails. The Chair added that the framework needs to adapt as experience is gained, while providing certainty that the appetite will not change frequently.

- It was asked how the proposed framework aligns with NSPs' existing risk frameworks.

The Chair advised that the ISO does not have access NSPs' risk frameworks. Dr Todd suggested that participants' frameworks could be a starting point for the consultation.

- Mr Michelson considered that risk is ultimately owned by end users, whose risk tolerances differ. He did not support penalising maintenance under a causer-pays approach, as it could disincentivise maintenance, and noted that some end users may prefer to accept the risk rather than pay for mitigation.
- Mr Carruthers agreed, noting that a causer-pays approach is complex where several outages combine to create security risks.

Ms McMahon asked whether outage owners mitigating their own risk first is a reasonable principle.

- Mr Grey gave the example of a South Hedland to Hedland Terminal line outage, where a trip of the remaining line could shift around 80 MW onto the APA and Fortescue networks. He noted that this risk cannot be accepted, and suitable mitigations would be required.
- Mr Michelson confirmed that Rio Tinto would seek to implement controls within its own control to reduce risk to an acceptable level before seeking external intervention.
- Mr Kirby agreed with this approach but noted the challenge of differing risk appetites and values of unserved energy, which may change over time.
- Ms Guzeleva considered that the key issue is coordination between NSPs, and that the ISO should only be involved where such coordination is required. She noted that the key principles need to be in the Rules.
- Mr Ryan noted that this coordination already occurs proactively and that, where a matter is escalated to the ISO and additional ESS is required, the associated costs would be shared across all participants.

Dr Todd noted that the two options are causer pays or sharing the cost, and that members appeared not to support causer pays approach, as it may disincentivise maintenance.

The Chair noted that the existing current outage coordination process is inadequate, as it lacks consistency, oversight, transparency and alignment on risk.

Proposed process

Dr Todd walked through the proposed process flowchart and asked whether members had any objections to the proposed approach.

- It was noted that cumulative generator outages could be missed if they bypass the process.

The Chair advised that such outages would follow the notify-only path. The ISO would undertake a scheduling conflict check, for example where multiple single generating unit outages are scheduled in the same part of the network.

- Mr Ryan advised that Horizon Power's position has not changed.
- Mr Michelson considered that the process is heading in the right direction and supported piloting it before it is locked into procedures and the Rules.
- Mr Kirby had no objections, noting that the process seems sound at a principle level.
- Mr Carruthers considered that the main challenge will be the risk appetite, and it should be clearly specified in planning criteria rather than in a separate process.
- It was noted that the process should address changes arising between outage approval and implementation.

Dr Todd noted that the process includes a step to revisit the plan where new risks to system security arise.

- Mr Tan sought certainty that NSPs could proceed with outages, with the ISO's role limited to adjusting outage timing where scheduling conflicts arise or applying additional mitigation measures, rather than approving outages.

Dr Todd noted this feedback and that the proposed rule changes are expected to be presented at the next meeting.

Action item: ISO to present the proposed rule change content, including the split between the Rules and procedures and the pathway for urgent outages, at the next workshop.

5. ESS COST RECOVERY

Mr Robinson presented slides 39-45 on ESS cost recovery. He noted that FCESS and SRESS would be renamed regulation and contingency reserve raise, consistent with terms used in the WEM and NEM. Currently, regulation costs are allocated based on the difference between maximum and minimum load over a three-year reference period, and contingency reserve raise costs are allocated using a runway method based on the nameplate capacity of each NSP's largest facility, neither of which reflects the cause of the need for the service.

Mr Robinson outlined the EPNR review position:

i. Causer-pays approach applied by trading interval;

ii. Regulation costs recovered from participants departing from their balancing position;

iii. Contingency reserve raise costs allocated to supply facilities based on their actual output in each interval using the runway method;

iv. Exemption for facilities that do not contribute to the need for the service; and

v. Contingency reserve lower costs for loads, when introduced, to mirror contingency reserve raise.

Mr Robinson invited member's feedback on the proposed implementation of changes to contingency reserve raise cost recovery.

- Mr Jones questioned the alignment between contingency reserve raise requirements, which are determined and contracted annually, and the proposed allocation of costs using half-hourly generation data. He suggested considering whether costs could instead be allocated based on contributions to the annual requirement.

Mr Robinson acknowledged the distinction, noting that an interval-based approach may be less appropriate if contingency reserve requirements remain constant throughout the year. However, the proposed approach anticipates greater variability in contingency reserve requirements over time.

- Mr Michelson queried whether supplementary services procured for islanding would account for both generation and load, and whether the calculation would use a net value.

Mr Robinson explained that the relevant measure would depend on the contingency being covered. Where a contingency involves the loss of both generation and load, the net impact would be relevant, whereas the loss of a generating unit would be assessed against its gross output.

- Members sought clarification on the proposed runway methodology, including how individual Facilities would be assessed, the treatment of generation and load behind a common connection point, and the use of metered data.

Mr Robinson explained that the current methodology allocates costs based on the nameplate capacity of the largest generating unit in each portfolio, whereas the proposed approach would use the actual metered output of individual Facilities in each trading interval. Costs would be shared across Facilities according to their contribution to the contingency reserve requirement, with larger Facilities bearing the incremental costs attributable to their additional output.

Ms Guzeleva clarified that the proposal was intended to consider metered injections at a Facility's connection point, rather than necessarily assessing individual generation and load behind that point.

- Mr Curruthers noted that, using a solar farm and its feeder as an example, the complexities of various pieces of infrastructure may make it difficult to definition the largest single contingency at any given Facility.

Mr Robinson acknowledged the need to more clearly define the contingency risk attributable to each Facility.

- Members raised concerns about the potential impact of the proposed methodology on investment and operational decisions, including whether higher costs for larger generating units could discourage investment in more efficient generation or incentivise Facilities to reduce output to minimise ESS costs.

Mr Robinson explained that the runway methodology allocates the incremental costs attributable to larger Facilities while sharing common costs across relevant Facilities. He noted that the intention was to reflect the costs associated with the contingency risks created by individual Facilities, including in investment decisions.

Mr Robinson and Ms Guzeleva also noted that ESS costs were generally small relative to generation revenues and considered it unlikely that Facilities would materially reduce generation solely to avoid contingency reserve costs.

- Mr Carruthers suggested that contingency reserve raise costs should be recovered from electricity consumers, who ultimately benefit from a secure and reliable power system, rather than generators.

Mr Robinson acknowledged that consumers benefit from contingency reserve services but noted that they have limited ability to influence the generation characteristics driving the need for those services. He explained that the proposed causer-pays approach seeks to allocate costs to parties able to influence and reduce the requirement for contingency reserve.

Ms Guzeleva supported this rationale, noting that the existing nameplate capacity methodology did not adequately reflect the drivers of contingency reserve requirements. She considered that a consumer-pays approach would not provide equivalent incentives to reduce those requirements.

- Mr Ashworth noted a concern that co-located solar and BESS Facilities would be unfairly punished by ESS costs despite not presenting a ‘trip risk.’

Mr Robinson referred to proposal 5.4 on slide 40, explaining that Facilities would be exempt from contingency reserve raise costs where they could demonstrate that a trip would be automatically offset by load curtailment at the same site.

Mr Robinson noted that the portion of the presentation addressing regulation services (slides 43-44) would need to be covered at a future meeting.

- Ms O'Brien expressed support for a causer-pays approach to contingency reserve raise cost recovery but cautioned against introducing unnecessary complexity through trading interval-based cost allocation, given the size and characteristics of the NWIS.
- Ms O'Brien also highlighted the interaction between the balancing market and ESS arrangements for procuring regulation services, noting the need to address potential duplication and consider the reforms together.

Mr Robinson noted that the proposed changes to regulation service cost recovery, outlined in slides 43–44, would be considered at a future Working Group meeting.

6. GENERAL BUSINESS

The meeting closed at 12:35pm.