



Pilbara Networks Rule Change Proposal Form

Rule change proposal ID: PRC_2022_01

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Change requested by:

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Pilbara Networks Rule(s) affected	Rule 4, rule 8, rule 53(2), rule 77(2), rule 103(2), rule 105(3), rule 121(3), rule 129, rule 136(1), rule 141(3), rule 152(1)(a), rule 172, rule 182(3) and (4), rule 188, rule 189, rule 191(2), rule 193(2)(b), rule 248(2)(b) and (c), rule 269(a), rule 277(2), rule A4.28 and rule A.54 New rules introduced: rule 5A and rule 188A

Introduction

Clause A2.5.1 of the Pilbara Networks Rules provides that any person may make a rule change proposal by completing a rule change proposal form and submitting it to the Coordinator of Energy (**Coordinator**).

This rule change proposal can be sent by:

Email to: energymarkets@energy.wa.gov.au

Post to: Coordinator of Energy
Attn: Director, Wholesale Markets
C/o: Energy Policy WA
Locked Bag 11, Cloisters Square
PERTH WA 6850

The Coordinator will assess the proposal and will notify you within 5 business days of receiving this form whether the rule change proposal will be further progressed.

All of the fields below must be completed for the proposal to be progressed, and the proposal must:

- provide any proposed specific changes to particular Pilbara Networks Rules; and
- describe how the proposed rule change would allow the Pilbara Networks Rules to better address the Pilbara electricity objective.

The Pilbara electricity objective, as defined in section 119(2) of the *Electricity Industry Act 2004*, is to promote efficient investment in, and efficient operation and use of, services of Pilbara networks for the long-term interests of consumers of electricity in the Pilbara region in relation to —:

- (a) price, quality, safety, reliability and security of supply of electricity; and
- (b) the reliability, safety and security of any interconnected Pilbara system.

Regulation 4 of the *Electricity Industry (Pilbara Networks) Regulations 2021* sets out matters to which the Coordinator must have regard when applying this objective. Those matters include:

- (a) the contribution of the Pilbara resources industry to the State's economy;
- (b) the nature and scale of investment in the Pilbara resources industry;
- (c) the importance to the Pilbara resources industry of a secure and reliable electricity supply;
- (d) the nature of electricity supply in the Pilbara region, including whether or not regulatory approaches used outside the Pilbara region are appropriate for the region, Pilbara network users and Pilbara networks; and
- (e) any other matter the Coordinator considers relevant.

Details of the proposed rule change

1. Describe the concern with the existing Pilbara Networks Rules that is to be addressed by the proposed rule change:

Pilbara Electricity Reforms

1. The Pilbara Network Rules (**PNR**) and Harmonised Technical Rules (**HTR**) (together, the **Rules**) are a central aspect of the Pilbara Electricity Reforms (**Reforms**) which were introduced to cater to the unique operating environment of the Pilbara and to secure the long-term supply of competitively priced electricity to industrial, commercial and retail consumers in the Pilbara region.
2. The Reforms acknowledge that many participants operating in the Pilbara are vertically integrated (they generate, transport and use electricity for their own purposes) and that self-supply by such participants accounts for the majority of electricity consumption in the Pilbara. The Reforms sought to balance this operating environment with a regime that prioritises long-term consumer interests particularly in relation to price, quality, safety, reliability and security of supply.
3. A key objective of the Reforms was to improve access to the North West Interconnected System (**NWIS**). Currently, 40% of generation capacity in the Pilbara is connected to the NWIS and 60% is not. Liquefied natural gas (**LNG**) projects in the Pilbara represent approximately one-half of that 60%. This reflects the fact that LNG operators (like other minerals and energy companies) have historically developed self-supporting solutions for their projects, rather than adopting an integrated, coordinated approach.

Woodside's plans to connect the Pluto Facility – the Pluto Proposal

4. One such unconnected standalone facility in the Pilbara is Woodside's Pluto operation on the Burrup Peninsula. The Pluto site comprises a 4.9 million tonnes per annum (**Mtpa**) LNG processing train, condensate production facilities, a domestic LNG facility, four 35MW nominal (140MW total) gas turbines and an electricity distribution network (the **Pluto Facility**).
5. Woodside is currently considering a project involving the connection of the Pluto Facility to Horizon Power's network in the NWIS. The project would involve Woodside (subject to commercial arrangements and regulatory approvals):
 - (a) developing a solar photovoltaic (PV) power plant at the Maitland industrial estate approximately 15 km southwest of Karratha, Western Australia, complemented by a battery energy storage system and other associated infrastructure; and
 - (b) using existing, upgraded, or new NWIS infrastructure (including transmission and distribution infrastructure owned, or to be owned, by Horizon Power) to transmit power from the solar power plant to customers (including, but not limited to, the Pluto Facility). This infrastructure will also be complemented by a battery energy storage system at a new Burrup sub-station.(the **Pluto Proposal**).
6. Woodside plans to implement the Pluto Proposal through a phased approach. Initial solar PV generation capacity is expected to be up to 100 MW. As additional customer demand arises, the solar PV farm may be expanded in phases up to a maximum capacity of approximately 500 MW. The solar PV farm will be fully compliant with, and seeks no exemption from, the Rules.
7. The Pluto Proposal contemplates generation of electricity for up to 70 years (subject to customer demand, commercial arrangements and regulatory approvals).
8. Woodside and Horizon Power are negotiating connection works to facilitate the connection of their two networks. The relevant Woodside entity as the registered NSP for the Pluto Facility will ensure that all NSP responsibilities are fulfilled such that the connecting assets are compliant with the PNR and HTR (as modified by this rule change proposal). In delivering upon its NSP obligations, Woodside is ensuring, including via the interconnection works to be performed by Horizon Power, that :
 - (a) the electricity infrastructure at the Pluto Facility will comply with the HTR at any interconnection point with the NWIS;
 - (b) an exit only service will be sought, meaning that during normal operating conditions, the Pluto Facility will only import electricity from the NWIS; and
 - (c) the electricity infrastructure at the Pluto Facility, when connected to the NWIS, will be configured so that each of Woodside, Horizon Power (in accordance with the interconnection works to be performed by Horizon Power) and the ISO will be able, at any time and for any reason, to disconnect the Pluto Facility from the NWIS (including in response to a contingency event on either side of an interconnection point).

9. We note that Horizon Power's network is a 'covered network' under the Rules. Accordingly, any augmentation of Horizon Power's network carried out as part of the Pluto Proposal will be accessible by third parties by making an access application to Horizon Power.

Pluto Facility treatment under the Rules

10. The Rules include exceptions to aspects of the Rules which do not align well with the particular circumstances of certain resources industry operators. In particular, there is a carve out for 'integrated mining networks' which limits the reach of the Rules in respect of operators in the mining industry. The exemption allows those operators to connect to the NWIS in a way that preserves their operational independence and the reliability of supply to their operations, without jeopardising security or reliability in the NWIS. Similarly, rule 23 of the PNR identifies three specific networks that are designated 'excluded networks' and are therefore treated as 'facilities' rather than 'networks' for the purposes of the PNR, recognising the unique needs of the operators of those networks.
11. However, the specific circumstances of LNG producers (including the Pluto Facility), a key resources industry in the Pilbara, have not been catered for in the same way. Woodside's rule change proposal seeks to ensure that the particular circumstances of the Pluto Facility (and similar standalone LNG facilities that may seek to import interruptible power) are addressed in the Rules, just as the particular circumstances of the mining industry are addressed via the 'integrated mining network' category.
12. There are 9 land-based LNG facilities operating in Australia including 4 operating in the Pilbara. None are currently connected to an electricity grid. Given the importance of electricity to maintaining gas and associated liquids in a stable state, most producers rely on self-supply rather than grid-sourced power. Grid unreliability can cause unexpected shutdowns with cascading impacts on safety, the environment and the supply of gas to domestic and international customers.
13. This rule change proposal creates a new category of network under the PNR, modelled on the 'integrated mining network' concept, intended to address the Woodside's specific concerns in relation to the Pluto Facility and, ultimately, the concerns of the Pilbara LNG industry as a whole. This approach is consistent with the Government of Western Australia, Energy Policy WA, Pilbara Electricity Reform, Scope of Application paper dated May 2020. Section 2.2.1 "Category 1: Networks in the NWIS" of the paper recognises that new networks connecting to the NWIS may require a rule change because "each network's connection is likely to raise slightly different issues". As mentioned above, the existence of the 'integrated mining network' and 'excluded network' categories reflects that principle.
14. Woodside submits that a further category is warranted in this case to address the following key features of the Pluto Facility:
- (a) The Pluto Facility's gas turbines are used not only to produce electricity, but also waste heat which is used to create hot water needed to operate the common facilities (e.g. steam circuits). Sudden changes associated with the dispatch of the Pluto Facility's gas generators would present an additional reliability risk to the Pluto Facility, given the potential loss of both power supply and hot water. Were that to occur:

- (i) Woodside would be prevented from producing the heat required by the common facilities;
 - (ii) the Pluto LNG train would need to be interrupted to restart the cooling and liquefaction of treated natural gas feed to produce LNG product; and
 - (iii) it may trigger the Under Frequency Load Shedding protocol under which the Pluto Facility operates. The Under Frequency Load Shedding protocol protects the Pluto Facility electrical system from full blackout by reducing the Pluto Facility's electrical loads. Triggering this protocol can lead to the flaring of gas with associated emissions and economic impacts.
 - (b) Unlike traditional power grids, which ensure security of supply through maintaining spinning reserve, the Pluto Facility has (as part of its emissions reduction plan) optimised its power generation such that if an online gas generator fails, the Pluto Facility undergoes pro-active load shedding in order to protect the Facility. This is only possible if Woodside maintains total control of its high-reliability gas generators.
 - (c) The Pluto Facility is classified as a Major Hazard Facility under the *Dangerous Goods Safety Act 2004* (WA) and associated regulations (**DGSA**). We are not aware that any other rule participant under the PNR operates a facility with this classification. Woodside is subject to certain obligations to manage and eliminate threats to safety under the safety management system in its approved safety report under the DGSA. A loss of power at the Pluto Facility jeopardises Woodside's ability to proactively manage safety incidents in accordance with its regulatory obligations. For example, a loss of power could result in the shutdown of plant equipment with consequences for safety (potential loss of containment), the environment (flaring) and the supply of gas to domestic and international customers.
 - (d) The sensitivity of an LNG train to electrical fluctuations means minor interruptions (even those lasting only seconds or even milliseconds) can have significant impacts. This is because electricity supply interruptions at the onshore LNG facility may result in interruptions in the operation of offshore facilities as well. The cascading impact of such an interruption on the integrated offshore and onshore production process means that (depending on the plant) it can take up to a week to restore normal operations (with a potentially significant financial impact).
 - (e) Where power supply is not promptly restored:
 - (i) LNG stored in tanks ready for export continues to 'boil off'. If power is not restored promptly and the boil off compressor cannot be run, then the boil off gas will go to flare, increasing emissions; and
 - (ii) unlike iron ore or other solid-rock resources which can be stockpiled in the long-term, LNG will change state back to natural gas if power is not restored.
15. Woodside notes that many of the features described above would apply equally to other LNG facilities in the Pilbara.
16. The above factors illustrate why the security and reliability concerns arising from connection to the NWIS are magnified for LNG operators, and why Woodside requires a high degree of

operational control over its operations (including to ensure that it can manage and eliminate safety risks consistently with its regulatory obligations).

17. Woodside regards this rule change proposal as a critical step in permitting the participation of the Pilbara LNG industry in the NWIS. Although the rule change proposal is drafted in terms that apply only to the Pluto Facility, it is intended (in order to promote the Pilbara electricity objective) that, if any other LNG facility wished to connect on a similar basis, it would need only to progress a basic rule change to be listed by name together with the Pluto Facility. We expect such a rule change would involve a process of discussions with Energy Policy WA and the Coordinator for Energy to determine the appropriateness of extending the proposed rule change to the new facility. We understand this is similar to the rationale behind the drafting of the 'integrated mining network' category, which is currently crafted to apply only to Rio Tinto's operations, but may in future extend to other vertically integrated iron ore producers in the Pilbara.

Key issues under current Rules for the Pluto Facility

18. **(System operations directions)**

- (a) Under the current Rules, connecting the Pluto Facility to the NWIS would require it to comply with system operations directions issued by the ISO, the ISO control desk or a relevant Network Service Provider (**NSP**).
- (b) System operations directions may deal with any matter and require the recipient to do or not do any thing. Presumably that would include any kind of direction with respect to the generation and consumer facilities within the Pluto Facility (eg a direction to dispatch Woodside's gas generators).
- (c) For the reasons given in paragraph 14 above, Woodside requires a degree of operational control that makes these provisions unacceptable.
- (d) Similar considerations apply in respect of procedures, protocols and pre-contingent directions under the PNR.

19. **(HTR compliance)**

- (a) The Pluto Facility was designed before the implementation of the Reforms. It was designed on the basis that:
 - (i) it would need to be self-sufficient and meet its own specific load, high-reliability and safety requirements; and
 - (ii) there was no interconnected grid available to provide the electricity required or support in the case of planned or unplanned interruptions in supply, largely due to the fragmented, ad-hoc manner in which electricity infrastructure in the Pilbara has (until recently) evolved.
- (b) Existing infrastructure within the Pluto Facility may not comply with the HTR in certain respects. On this basis, it is proposed that technical compliance will be assessed and ensured at any connection point between the Pluto Facility and the NWIS.

- (c) Woodside is at an advanced stage of development of the Scarborough gas field and associated infrastructure at the Pluto Facility. There is currently no capacity to undertake any material upgrades to the power infrastructure at the Pluto Facility for a number of years. It is also uncertain what the scale of work or cost to bring the Pluto Facilities into full compliance with the HTR would be.
- (d) In November 2021, a final investment decision was made to approve the Scarborough and Pluto Train 2 developments, including new domestic gas facilities. The estimated capital expenditure for the development of Pluto Train 2 from the effective date of 1 October 2021 is \$US5.6 billion. The first LNG cargo from Pluto Train 2 is targeted for 2026.
- (e) Woodside is concerned that any material upgrade it were to undertake for compliance with the HTR would present an unknown compliance burden on the Pluto Facility with associated resourcing and timing impacts.
- (f) Accordingly, Woodside proposes to connect so that it will, from day one, be fully compliant with the HTR *at an interconnection point* (but not behind it). Provisions of the HTR that apply 'behind' a relevant interconnection point between the Pluto Facility and Horizon Power's network will not apply to the Pluto Facility. In practice, Woodside will ensure (including via the interconnection works to be performed by Horizon Power) that connection equipment is designed in a way that corrects for any technical non-compliance of facilities behind an interconnection point (and its success in so doing will ultimately be adjudicated by the ISO when it decides whether or not to permit the connection to proceed).
- (g) It is proposed that this technical treatment of the Pluto Facility will remain in place for the life of the Pluto Facility to provide Woodside certainty that there will not be perverse outcomes in the event it pursues a material upgrade. For example, if the Pluto Facility complies with the HTR at the interconnection point upon initial connection it is difficult to see the merits of duplicate expenditure being incurred within the Pluto Facility (which will already be compliant with the HTR at the interconnection point).
- (h) Woodside notes that this technical standard is a *higher* standard than would otherwise initially apply to the Pluto Facility (through grandfathering), but provides it with greater certainty going forward. Woodside believes this strikes an appropriate balance between preserving the security and reliability of the NWIS and minimising the impact of connection on Woodside's operations.

20. Accordingly, Woodside proposes a rule change to address these and related issues, as described in paragraph 21 below.

Explanation of the rule change

21. The rule change operates as follows:

- (a) A new category of network is created: an 'integrated LNG network'. This is designed to mirror the concept of an 'integrated mining network', so far as possible, with certain changes to reflect to the unique features of the Pluto Facility. The new category is

currently defined by reference to the Pluto Facility. However, other facilities could be added to the category, by a future rule change.

- (b) The key differences between an 'integrated LNG network' and an 'integrated mining network' are:
- (i) the 'purposes' listed in new rule 5A for an integrated LNG network do not include the provision of Essential System Services (unlike rule 5 in respect of 'integrated mining networks'). This is because the Pluto Facility would not export electricity into the NWIS except in a contingency scenario;
 - (ii) the list of purposes in new rule 5A also provides that the HTR only apply to the extent they apply at an interconnection point;
 - (iii) an 'integrated LNG system' is geographically confined to the existing facility footprint; it does not include any expansion of an existing network's geographical range;
 - (iv) an 'integrated LNG system' must produce electricity solely intended for consumption within the system. It must be an exit service only at any interconnection point with the NWIS; and
 - (v) an 'integrated LNG system' must be connected so that the owner, the ISO, the ISO control desk and the registered NSP of a network to which the system is connected can disconnect the system at any time and for any reason.
- (c) Specific provisions are then included to ensure that system operations directions cannot be given in a form that would interfere with the operation of the integrated LNG system (and especially cannot require the Pluto Facility to dispatch electricity into the NWIS). Instead, the only directions that may be given are directions to:
- (i) reduce withdrawals of electricity;
 - (ii) reduce injections of electricity (noting that this will only occur if there is a serious equipment failure); or
 - (iii) disconnect the integrated LNG system from the NWIS.
- This principle extends to directions given by the ISO to resolve an outage scheduling conflict involving an integrated LNG system.
- (d) Finally, Woodside proposes that the owner of the integrated LNG system, the ISO, the ISO control desk and the relevant registered NSP be given an additional express power to disconnect an integrated LNG system from the NWIS at any time and for any reason, subject to giving as much notice as is reasonably practicable in the circumstances. This is to ensure that the ISO, ISO control desk and relevant registered NSP retain a high degree of control over system reliability and security despite the limitations placed on the types of system operations directions they can issue.

22. As an ancillary matter, the rule change proposal includes an amendment to the calculation of the ISO fees to ensure that related NSPs are treated as a single NSP for the purposes of that calculation. Without this change, it is likely that the Woodside NSPs at the Pluto Facility and at the new solar farm at Maitland (which will be different entities) would each be liable for one-fifth

of the ISO's fees. The result would be that Woodside would bear two-fifths of the ISO's total fees.

Other options considered

23. In preparing this rule change proposal, Woodside considered whether any existing network categories under the PNR would address its concerns. However, no existing category addresses the specific circumstances of an integrated LNG system and the concerns raised in paragraphs 18 and 19 above. Specifically:
- (a) **(Excluded Network category)** Woodside cannot apply for the Pluto Facility network to become an Excluded Network, because this category does not allow generation facilities with a capacity of more than 10 MW to be connected to the network. Even if Excluded Network status were attainable, it would not address Woodside's concerns regarding the application of the HTR and system operations directions.
 - (b) **(Integrated Mining Network category)** Simply adopting the definition of integrated mining network wholesale for integrated LNG systems would not address Woodside's concerns regarding the application of the HTR and system operations directions to the Pluto Facility.
24. Additionally, Woodside considered whether ordinary derogations from the HTR granted under rule 64 of the PNR would address its technical concerns. However, for the reasons given in paragraph 19 above, and to protect the significant investment already made in the Pluto Facility, Woodside requires an exemption from the HTR that is more certain and durable than the exemptions available under rule 64 (which may be granted temporarily, conditionally or on a transitional basis).

2. Explain the reason for the degree of urgency:

25. Woodside understands that the standard rule change process will apply to this rule change proposal.
26. However, Woodside respectfully requests that the Coordinator target completion of the rule change process as soon as reasonably possible, given:
- (a) finalisation of commercial arrangements is scheduled for late-2022. To finalise commercial arrangements, certain regulatory and commercial matters will need to be resolved. One of the key regulatory matters that will need to be resolved is the rule change;
 - (b) Horizon Power and Woodside are currently progressing work on the basis of a "risk reduction option" to ensure the delivery of first electricity to the Pluto Facility by the middle of 2023. At this point in time, commissioning will take place next year to ensure that electricity can be safely imported into the Pluto Facility without impacting on the NWIS. This will be done via a temporary 33kV connection to the Pluto Facility. To facilitate this occurring, the rule change will need to be finalised in a timely manner; and

- (c) To meet this project timetable certain works need to be committed with Horizon Power by the end of the third quarter of 2022.

3. Provide any proposed specific changes to particular Pilbara Networks Rules: *(for clarity, please use the current wording of the rules and place a ~~strike through~~ where words are deleted and underline words added)*

See Appendix 1.

4. Describe how the proposed rule change would allow the Pilbara Networks Rules to better address the Pilbara electricity objective:

27. This rule change proposal is a critical step in addressing the current barriers to LNG producers connecting to the NWIS. This change may be expected to encourage existing LNG producers to connect to the NWIS which will advance the Pilbara electricity objective by creating a more coordinated, reliable network.
28. In particular, the rule change proposal will improve the efficiency and effectiveness of electricity services in the Pilbara and support economic growth and development in the region, while also promoting the Pilbara electricity objective in the following key ways:
- (a) no adverse effect on safety, security and reliability of the NWIS (for the reasons set out above and below);
 - (b) maintaining the security and reliability of the Pluto Facility (in the case of planned and unplanned interruptions and system shutdowns);
 - (c) promoting efficient investment in upgrading / supplementing Pilbara networks and generation facilities and increasing their use-profile, rather than incentivising producers to construct separate infrastructure to develop a standalone grid;
 - (d) lowering the unit cost of electricity transportation, by driving an overall increase in electricity production on the NWIS; and
 - (e) recognition of the contribution of the LNG industry and its impact in the Pilbara resources industry and the State economy.

Safety, security and reliability of the NWIS

29. Ensuring secure and reliable supply to consumers connected to the NWIS is the key objective of the Reforms. The rule change proposal will not harm or undermine the security and reliability of the NWIS for the following reasons:
- (a) the Pluto Facility will only seek to import electricity from the NWIS;
 - (b) integrated LNG systems like the Pluto Facility occupy a far more limited footprint, and will have a far more limited impact on the NWIS, than the transmission networks that supply mining operations and which have been granted the status of 'integrated mining systems' under the PNR; and

- (c) integrated LNG systems would, once connected, have the ability (and are in fact required under the proposed rule change to have the ability) to island themselves (or to be islanded directly by the ISO, ISO control desk or the relevant registered NSP if necessary). This is a significant protective measure which (i) enables LNG producers to maintain self-supply to the relevant system if an issue arises in the NWIS; and (ii) enables the ISO, ISO control desk or relevant registered NSP to maintain the security and reliability of the NWIS if an issue arises within the integrated LNG system. Taking the Pluto Facility as an example, it is contemplated that the system (if and when connected as part of the Pluto Proposal) will be configured so that:
- (i) A registered NSP, the ISO or the ISO control desk will be able to island the Pluto Facility in response to any threat to the reliability or security of the NWIS arising from the Pluto Facility. The proposed rule change expressly provides for the power to do so at any time and for any reason (provided it is reasonably necessary under good electricity industry practice, and subject to giving as much notice of the proposed disconnection as reasonably practicable in the circumstances); and
 - (ii) Woodside will be able to island the Pluto Facility in response to any contingency which may impact the Pluto Facility or the NWIS, or where load shedding is required to maintain system integrity, in order to protect its own operations.

30. As alluded to in paragraph 21(c) above, an integrated LNG system would still be subject to any direction to reduce withdrawals or injections of electricity, or to disconnect, issued in accordance with good electricity industry practice.
31. These factors should give the Coordinator significant confidence in the lack of disruption or threat to safety likely to occur by virtue of the Pluto Facility (and potentially other integrated LNG systems) connecting to the NWIS. In particular, they remove the rationale for the broad power to issue system operations directions of any nature in respect of the facilities within an integrated LNG system, since there will be a physical ability to insulate either system from disturbances in the other.

Security and reliability of the connected systems

32. Security of power supply is critical to the operation of integrated LNG systems. They require a secure, stable and quality power supply on a continuous basis over the long term to meet the highest reliability standards. The potential financial and reputational consequences of any supply interruption at the Pluto Facility are significant, possibly amounting to millions of dollars given the impact on domestic energy supply and international energy exports.
33. As explained in paragraph 14(d) above, the sensitivity of an LNG train to electrical fluctuations means minor interruptions (even those lasting only seconds or even milliseconds) can have significant impacts. Offshore facilities are typically run from an onshore facility and/or remotely from Perth. Therefore, electricity supply interruptions at the onshore facilities may also result in interruptions in the operation of the offshore facilities, which is why any interruption is so significant to protecting safety and value. As a result, operators of integrated LNG systems

require unfettered operational control of the facilities within them to ensure that such interruptions (along with the cascading impacts they cause) do not occur.

34. The rule change proposal is therefore designed to exempt the Pluto Facility (and potentially other existing integrated LNG systems) from certain system operations directions (and other aspects of the Rules) which do not align with their particular sensitivities around security of supply, while safeguarding security and reliability on both sides of any interconnection point.
35. Woodside and Horizon Power, are negotiating interconnection works to facilitate the connection of their two networks. The relevant Woodside entity as NSP the Pluto Facility will ensure that all NSP responsibilities are fulfilled such that the connecting assets are compliant with the PNR and HTR (as modified by this rule change proposal). In delivering upon its NSP obligations, Woodside is ensuring, including via the interconnection works to be performed by Horizon Power, that :
 - (a) at any interconnection point with the NWIS, the electricity infrastructure at the Pluto LNG Facility will be managed to comply with the HTR;
 - (b) the Pluto Facility is only intended to import electricity from the NWIS and will, during normal operating conditions, only import electricity ; and
 - (c) the electricity infrastructure at the Pluto Facility, when connected to the NWIS, will be configured so that each of Woodside, a registered NSP and the ISO will be able, at any time and for any reason, to disconnect the Pluto Facility from the NWIS.
36. To evidence adherence to the technical principles, Woodside has commissioned steady-state and dynamic modelling as to (amongst other things) network impacts, contingencies, voltage, frequency and flicker and harmonic limits to ensure that the technical principles will be met on an on-going basis for the life of the connection between the Pluto Facility and the NWIS based on the existing infrastructure proposed for the connection as per the recently published access application process.

Recognition and inclusion of the LNG industry as part of the Pilbara resources industry

37. The LNG industry is a key Pilbara industry which should be catered for and supported under the PNR and HTR. As explained above, integrated LNG systems face unique challenges that justify the exemptions sought in this rule change proposal.
38. The proposed rule change will remove the current disincentive for operators of integrated LNG systems to connect those systems to the NWIS, recognising the important contribution of the LNG sector as part of the resources industry in the Pilbara region.
39. The connection of the Pluto Facility may encourage existing LNG facilities to connect to the NWIS which can create a more reliable system for electricity consumers in the Pilbara as there will be greater interconnection and a more diverse range of systems connected.

Efficient investment in Pilbara networks

40. Facilitating the connection of integrated LNG systems may:
- (a) promote more efficient investment in renewable generation projects in the Pilbara by operators of those systems, such as the investment contemplated as part of the Pluto Proposal, particularly where the geography is such that the renewable generation cannot be collocated with the integrated LNG system;
 - (b) reduce the emissions intensity of generation of the Pluto Facility, with concomitant benefits for the Burrup Peninsula;
 - (c) expand the NWIS, enhancing the quality and reliability of power supply in the expanded zones and generating positive long-term outcomes for consumers in the Pilbara area; and
 - (d) support the reporting and information regime in Chapter 10 of the PNR and the preparation of a transmission development plan and Pilbara Generation Statement of Opportunities.

Summary of Rule Change Proposal's consistency with Pilbara electricity objective

Objective	How objective is met	
Promote efficient investment in, and efficient operation and use of, services of Pilbara networks	Encourages connection of the Pilbara LNG industry. Incentivises more renewable generation projects in the Pilbara.	✓
Promote long-term interests of consumers of electricity in the region in relation to price, quality, safety, reliability and security of supply	Addition of renewably generation capacity in the NWIS is likely to lead to higher reliability and security of supply, while reducing costs and emissions.	✓
Promote long-term interests of consumers of electricity in relation to reliability, safety and security of any interconnected Pilbara system	At any interconnection point with the NWIS, the electricity infrastructure of an integrated LNG system will be managed to comply with the HTR. The ISO and others are granted ample powers to protect the security of the NWIS by disconnecting the Pluto Facility at will, if necessary.	✓

5. Provide any identifiable costs and benefits of the change:

41. The key benefits of the proposed change, as set out above, are:
- (a) the encouragement of connection of other LNG facilities on a similar basis to the Pluto Facility, expanding the reach of the NWIS;
 - (b) making the NWIS more robust (by expansion and diversity of the network and generation assets) and greener (through the connection of facilities with renewable generation);
 - (c) the advancement of State and Federal policy in relation to climate change and net zero emissions via investment in further renewable generation;

- (d) attendant economic and social benefits to the State, including the creation of new renewable energy jobs in WA, the economic development of the Pilbara and the reduction of greenhouse gas emissions; and
- (e) the sharing of ISO costs amongst greater number of NSPs.



Annexure 1 – marked up changes to the Pilbara Network Rules

Chapter 1 – Introduction

Subchapter 1.1 – Commencement and application

...

4 Application of these rules and the harmonised technical rules

- (1) The table to this rule specifies how these rules (including the *harmonised technical rules*) apply to each class of network

Class	Networks in class	Extent to which these rules apply to a network in the class
1A	A <i>covered network</i> forming part of the NWIS	All rules apply.
1B	An <i>integrated mining network</i> forming part of the NWIS, and which is not a <i>covered network</i>	Subject to rule 5, all rules apply, unless expressly limited to <i>covered networks</i> .
<u>1C</u>	<u>An <i>integrated LNG network</i> forming part of the NWIS, and which is not a <i>covered network</i></u>	<u>Subject to rule 5A, all rules apply, unless expressly limited to <i>covered networks</i>.</u>
<u>1D</u>	An <i>excluded network</i> forming part of the NWIS	Treated in these rules as a “facility”, not a “network” – see Subchapter 1.5. All rules that apply to a “facility” apply to it.
<u>1E</u>	A <i>non-covered network</i> forming part of the NWIS, which does not fall in Class 1B, or 1C <u>or 1D</u> .	All rules apply, unless expressly limited to <i>covered networks</i> .
2	A <i>covered network</i> which does not form part of the NWIS	Subject to Subchapter 1.6, all rules apply.
3	A <i>non-covered network</i> which does not form part of the NWIS	Rules do not apply unless explicitly stated.

{Notes to the above table –

- If a NWIS network which was previously an *integrated mining network*, an *integrated LNG network* or *excluded network* becomes *covered*, then on its *coverage commencement date* it will convert to Class 1A.

...

5A Integrated LNG networks

- (1) Subject to rule 5A(2), these rules apply to an *integrated LNG network* which forms part of the NWIS.
- (2) These rules apply to an *integrated LNG network* only to the extent reasonably necessary to achieve or promote, to a GEIP standard, the following purposes –

- (a) managing the *interconnector* between the *integrated LNG network* and another *NWIS network*, including managing energy and power flows, and power quality, across the *interconnector*; and
 - (b) facilitating the *maintenance*, improvement and restoration of *security* and *reliability* in a *covered network* by the *ISO*, the *ISO control desk*, the *ISO's delegates* and the *covered NSPs*; and
 - (c) to the extent an outage, *islanding event*, *contingency* or *pre-contingent threat* in the *integrated LNG network* may have a *credible* and material adverse impact on the *system security objective* in a *covered network* — managing the outage, event, contingency or threat; and
 - (d) to the extent an outage, *islanding event*, *contingency* or *pre-contingent threat* in a *covered network* may have a *credible* and material adverse impact on the *system security objective* in the *integrated LNG network* — managing the outage, event, contingency or threat; and
 - (e) the provision of information for, and undertaking, system modelling under Subchapter 4.4, to the extent reasonably required to a *GEIP* standard for the purposes set out in rules 5A(2)(a) to 5A(2)(d); and
 - (f) the objectives in Chapter 10, subject to the limitations set out in that Chapter; and
 - (g) ensuring that all *facilities*, *networks*, *storage works* and *equipment* forming part of an *integrated LNG system* comply with the *harmonised technical rules*, but only at the relevant *interconnection point* between the *integrated LNG system* and a *covered network* forming part of the *NWIS*.
- (3) Unless the contrary intention is expressed, this rule 5A applies throughout these rules, and no inference to the contrary is to be drawn from the fact that this rule 5A is specifically referenced in some places but not others.
- (4) If *equipment*, a *facility* or a *network element* ("**relevant thing**") falls outside the definition of *integrated LNG system*, this does not affect the application of the definition to any other *equipment*, *storage works*, *facility* or *network element* to which the *relevant thing* may be connected.

{Example — If a new 400 km transmission line is connected to a *relevant network*, the new line will not be part of the *integrated LNG system*, but that will not of itself cause the *relevant network* to fall outside the definition. However, if the *relevant network* ceased to be operated in an integrated fashion with the other parts of the system predominantly for the purpose of carrying on a *Pilbara LNG business*, it would fall outside the definition.}

Subchapter 1.2 – Interpretation

{A word or phrase defined in the Act or the regulations has the same meaning when used in these rules.}

8 Glossary

(1) A word or phrase defined in the following table has the meaning given.

...

<u>integrated LNG network</u>	<u>means a non-covered network which forms part of an integrated LNG system.</u>
<u>integrated LNG system</u>	<p><u>means the system comprising the following, to the extent that together they are operated in an integrated fashion predominantly for the purpose of carrying on a Pilbara LNG business –</u></p> <p><u>(a) one or more networks (each a "relevant network") constructed or operated as at the rules commencement date, provided that the network or networks were, as at the rules commencement date, used solely for the transportation of electricity for consumption by plant and equipment at the Pluto liquefied natural gas plant located at the Burrup Peninsula; or [Drafting Note: The fact that the networks must have been in use as at the rules commencement date means that newly built networks do not fall within the definition of integrated LNG system (other than an expansion of an existing network as per paragraph (b) below).]</u></p> <p><u>(b) any expansion of a relevant network's capacity (but not its geographical range) which is conducted to facilitate an increase in, or modification of, the production of LNG and associated products on the property, provided the expansion is designed, constructed and operated in such a way that, during normal system operations, it has a normally-closed electrical interconnection with a relevant network; and</u></p> <p><u>(c) any generation facilities, consumer facilities, storage works and other equipment connected behind an interconnection point between a relevant network or expansion of a relevant network referred to in paragraphs (a) or (b) of this definition and a covered network forming part of the NWIS, whether constructed or installed before or after the rules commencement date.</u></p> <p><u>provided that, when such a system is connected to the NWIS:</u></p>

	<p>(d) <u>all networks (including expansions), facilities, storage works and equipment referred to in paragraphs (a) to (c) of this definition are capable of being disconnected from the NWIS by the owner of the system, the ISO, the ISO control desk and the registered NSP of any network to which the system is connected in accordance with rule 188A;</u></p> <p>(e) <u>the system produces (and, if applicable, stores) electricity solely intended for consumption by facilities forming part of the system, as may be supplemented by electricity imported from the NWIS; and</u></p> <p>(f) <u>during normal operating conditions, the system will not inject electricity into the NWIS.</u></p>
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...

non-covered NWIS network	<p>means a <i>non-covered network</i> which forms part of the NWIS.</p> <p>{“non-covered NWIS network” includes an integrated mining network, <u>an integrated LNG network</u> and an excluded network.}</p>
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...

NSP {short for "network service provider"}	<p>subject to section 18, means a Pilbara network service provider as defined in the Act.</p> <p>{In the NWIS, NSPs are divided into registered NSPs and excluded NSPs. Registered NSPs are divided into covered NSPs and non-covered NSPs (with the latter including the NSP of an integrated mining network <u>or an integrated LNG network</u>). Outside the NWIS, NSPs are divided into covered NSPs and non-covered NSPs, but these rules have limited application outside the NWIS – see rule 4.}</p>
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...

<u>Pilbara LNG business</u>	<p><u>means the business of importing gas and associated liquids into a processing facility located in the Pilbara region, and processing this gas and associated liquids into liquefied natural gas, condensate and (where relevant) liquefied petroleum gas for the owners of those products to receive them at various delivery points and sell them internationally and domestically.</u></p>
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...

<u>private power system</u>	<p><u>means an integrated mining system or an integrated LNG system.</u></p> <p><u>[Drafting Note: The term 'private power system' is used in a number of places in the rules, but is not defined. This is a tidy-up change.]</u></p>
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Chapter 2 – Governance

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Subchapter 2.4 – Relationship between ISO and registered NSPs

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53 ISO may develop a procedure to govern cooperation

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(2) The *procedure* must be consistent with rule 5 {integrated mining systems} [and rule 5A {integrated LNG systems}](#).

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Chapter 3 – Instruments

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Subchapter 3.7 – The protocol framework and protocols

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77 ISO to prepare and maintain protocol framework

- (1) The *ISO* must, in consultation with (at least) *registered NSPs* and *registered controllers*, develop a *procedure* (“**protocol framework**”) for the purposes of this Subchapter 3.7.
- (2) The *ISO* must have regard to rule 5 [and rule 5A](#) when developing the *protocol framework*.

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Chapter 4 – Administration

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Subchapter 4.2 – Communications and systems requirements

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103 ISO to develop procedure for notices, communications and systems requirements

- (1) The *ISO* must develop a *procedure* in respect of —
 - (a) notices and communications required under, contemplated by or relating to, these rules; and
 - (b) communications and control system requirements; and
 - (c) data and information management system interface requirements for *registered NSPs* and *registered controllers*; and
 - (d) cyber-security requirements,necessary to support its and *rules participants*' functions and activities under these rules.
- (2) The *ISO* must have regard to rule 5 [and rule 5A](#) when developing the *procedure*.

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Subchapter 4.3 – Visibility

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105 ISO to maintain visibility list

- (1) The *ISO* must develop a *procedure* (“**visibility list**”) which lists the content, characteristics and timing of signals and data which must be *visible* to the *ISO control desk*, in accordance with this Subchapter 4.3, from locations within the *power system* or *facilities* connected to the *power system*, with a view to achieving the objectives in rule 104.
- (2) The *ISO* is to *publish* the initial *visibility list* as soon as reasonably practicable after this rule 105 commences..
- (3) A person may submit a *procedure change proposal* to add a *visibility item* to the *visibility list*, but the *procedure change proposal* is not to proceed unless —
 - (a) it is determined under Appendix 2 that the benefits of the addition in terms of the objectives in rule 104 outweigh the disadvantages, and justify the costs, of doing so; and
 - (b) an appropriate mechanism is provided —
 - (i) to compensate the person required to provide the *visibility* for any associated capital or operational costs; and
 - (ii) to permit the person a period of time to start providing the *visibility*, which period is reasonable to a *GEIP* standard; and
 - (c) if the *visibility item* involves *visibility* of a location within a *private power system*, the inclusion is consistent with rule 5 [and rule 5A](#); and

- (d) rule 101 is complied with.

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Subchapter 4.4 – Modelling

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121 ISO to develop power system modelling procedure

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- (3) The *power system modelling procedure* may authorise the *ISO* to require the following *facilities* to be included in the *power system model*, if the *ISO* judges it necessary to satisfy the *power system modelling threshold* —
- (a) an *excluded network*; and
 - (b) after having regard to rule 5, a *facility* on an *integrated mining network*; and
 - (c) after having regard to rule 5A, a *facility* on an *integrated LNG network*.

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Subchapter 4.5 – Budgets and Fees

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129 Determination of fees

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(7) Where:

- (a) two or more *registered NSPs* are associates of one another; and
- (b) one or more of the *registered NSPs' networks* are operated for purposes which include the supply of electricity to *facilities* on one or more of the other *registered NSPs' networks*.

then those *registered NSPs* will be treated as a single *registered NSP* for the purposes of rules 129(1), (2) and (3) and 130(1), and one of them must be nominated to make the payments required under those rules. If no nomination is made, then the *registered NSP* who *injects* the greatest quantity of electricity into the *NWIS* during the relevant *financial year* will be deemed to have been nominated.

[Drafting Note: Different Woodside entities may become registered NSPs at Pluto and at Maitland. This amendment is to ensure the Woodside group does not become liable to pay two fifths of system costs (twice as much as any other registered NSP) if that occurs.]

The test above seeks to ensure that the exception only applies where there is a connection between the activities of the related NSPs (ie where one NSP is effectively providing electricity to one or more of the others).

We note that rule 18 (relating to NSP groups) does not apply in this situation because the relevant networks will not be operated on an integrated basis.]

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Chapter 5 – Measurement

Subchapter 5.1 – Metering

136 Metering at interconnectors between covered and non-covered networks

{This rule 136 applies in respect of non-covered *excluded networks* as well as non-covered *registered networks*.}

- (1) If a *non-covered network* (including an *integrated mining network*, [an integrated LNG network](#) and an *excluded network*) is *interconnected* with a *covered network*, then an *interconnection point* on the *non-covered interconnector* between the two networks —
 - (a) must be metered in accordance with the *metering procedure*, to at least the standard necessary in accordance with *GEIP* to facilitate the operation of Chapter 8, the *Access Code*, the *Customer Transfer Code* and *network access contracts*; and
 - (b) must be included in the *covered NSP's metering database*, unless the *metering procedure* provides otherwise under rule 136(4).
- (2) The *covered NSP* and the *non-covered NSP* may agree and notify the *ISO*, and failing such notification the *ISO* is to *direct*, whether the metering referred to in rule 136(1)(a) is to be undertaken by the *covered NSP* or by the *non-covered NSP*.
- (3) If the metering is to be undertaken by the *non-covered NSP*, it must (in accordance with the *metering procedure*, if applicable, and otherwise in accordance with *GEIP*) make available the metering data to the *covered NSP*, unless the *metering procedure* provides otherwise under rule 136(4).
- (4) The *metering procedure* may, if the *non-covered NSP* consents, make alternative provision for the metering of an *interconnection point* on a *non-covered interconnector* and the holding and provision of the associated metering data, in which case the *metering procedure* must specify how this Chapter 5 is to be read in connection with the data.

141 Metering procedure

- (1) The *ISO* may develop a *procedure* (“**metering procedure**”) governing the gathering, storage, updating and communication to it and other persons of metering and other data under this Chapter 5.
- (2) The *metering procedure* must, so far as practicable consistent with meeting the requirements of these rules, seek to minimise compliance costs.
- (3) The *ISO* must have regard to rule 5 [and rule 5A](#) when developing the *metering procedure*.

Chapter 6 – Generation adequacy

152 Generation adequacy in non-covered networks

(1) Subject to rule 152(3) —

- (a) this Chapter 6 does not apply in respect of a *non-covered network* (including an *integrated mining network* [and an integrated LNG network](#)); and
- (b) instead, the *ISO* may at reasonable intervals require the *non-covered NSP* to confirm to the *ISO* (with such reasonable supporting information, if any, as the *ISO* may request having regard to the secondary objective in rule 150(2)) that the balance between *generation* and *load* in its *network* is appropriate in accordance with *GEIP*, having regard to the objective in rule 150(1).

...

Chapter 7 – System Operations

Subchapter 7.2 – Standards of behaviour

172 Grounds for non-compliance

- (1) A person does not have to comply with —
 - (a) rules 168, 169 or 170; or
 - (b) a *procedure* (including the *protocol framework*), a *protocol* or a *direction*,
to the extent that the person believes in good faith that compliance —
 - (c) is impossible; or
 - (d) is inappropriate due to prevailing emergency circumstances; or
 - (e) would be contrary to any law; or
 - (f) may cause or exacerbate a situation which risks physical injury or death to any person or material damage to any *equipment*; or
 - (g) would be contrary to the *system security objective*.
- (2) Rule 172(1) does not authorise a person to not comply with an obligation listed in paragraphs (a) or (b) of that rule, on any or all of the following grounds —
 - (a) that compliance may be inconvenient; or
 - (b) that compliance may cause the person to breach a contract or an *instrument of delegation*;
or
 - (c) that compliance may cause the person to incur additional costs.
- (3) If a person purports to rely on rule 172(1) to not comply with an obligation listed in paragraphs (a) or (b) of that rule, the person must *promptly* notify the *ISO control desk*, and must provide details of its reasons during any post-incident discussion or investigation.
- (4) An NSP of an integrated LNG network, a controller of a facility forming part of an integrated LNG system and a network user under a network access contract by which an integrated LNG network obtains access to a covered network does not have to comply with a notice issued under rule 191, any procedure (including the protocol framework), protocol, pre-contingent direction or system operations direction under these rules except to the extent that the rule 191 notice, procedure (including the protocol framework), protocol, pre-contingent direction or system operations direction requires the NSP, controller or network user (as applicable) to:
 - (a) reduce its withdrawal of electricity at the relevant interconnection point;
 - (b) disconnect the relevant interconnection point; or
 - (c) reduce its injection of electricity at the relevant interconnection point but only if the controller or network user believes in good faith it can do so in a way which does not affect the reliability, security and/or safety of the integrated LNG system or compliance with applicable laws.

and, for the avoidance of doubt, nothing in rule 5A(2) limits the application of this rule 172(4).

- (5) If a person forms the view in accordance with rule 172(4)(c) or rule 188(4)(e) that it cannot reduce its injection of electricity in accordance with a notice issued under rule 191 or any procedure (including the protocol framework), protocol, pre-contingent direction or system operations direction, then it must instead disconnect the relevant interconnection point.
- (6) If a person purports to rely on rule 172(4) or 172(5) to not comply with any rule 191 notice, procedure (including the protocol framework), protocol, pre-contingent direction or system operations direction, the person must promptly notify the ISO control desk, and must provide details of its reasons during any post-incident discussion or investigation.

Drafting Note: This does not extend to constraint directions issued under rule 258.

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Subchapter 7.4 – Notifying planned and unplanned outages

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182 Resolving scheduling conflicts

- (1) A “**scheduling conflict**” arises for a planned outage if the ISO determines that the outage taken together with all currently proposed or anticipated *notifiable events*, may cause the *power system* to be *outside the technical envelope*, or otherwise poses an unacceptable risk to *security and reliability*.
- (2) Wherever possible, *scheduling conflicts* are to be resolved by consensus between the *registered NSPs*, facilitated as necessary by the *ISO*.
- (3) If the *ISO* determines that a consensus will not be reached in time for the relevant *notifiable events* to be managed appropriately, the *ISO* may resolve the *scheduling conflict* by giving a *direction* to one or more of the affected parties, but cannot give such a direction to the controller of any facility in an integrated LNG system.
- (4) If the *scheduling conflict* involves, or involved *facilities* in, both a *covered network* and an integrated mining system ~~a private power system~~, the *ISO* must have regard to rule 5 in determining the content of a *direction* under rule 182(3).
- (5) A *direction* under rule 182(3) may specify which *notifiable event* is to have priority for scheduling purposes, and may contain such scheduling or other information or instructions as the *ISO* considers reasonably necessary to resolve the *scheduling conflict* and achieve the *system security objective*.

...

Subchapter 7.5 – Operating the power system

...

188 System operations directions

{Rule 86 sets out the obligation to comply with *directions*, and the circumstances in which compliance is excluded, e.g. where compliance may be illegal or unsafe.}

{Except when it is acting as an *incident coordinator* under rule 188(2), this rule 188 does not empower the *ISO* and *ISO control desk* to issue an operational *direction* of the sort contemplated here. The *ISO* does have other *direction* powers, e.g.

- a residual emergency power in rule 189;
- a limited power in respect of *pre-contingent actions* under rule 186;
- to manage *ESS* under Chapter 8;

- a *constraint direction*;}

(1) **{Registered NSP's general power}** Subject to rules 188(~~5~~4) and 188(~~6~~5), a *registered NSP* may at any time, for the purposes set out in rule 184(1), issue a *direction* in accordance with rule 188(3) to —

- (a) the *controller* of any *facility connected* to its *network*; and
- (b) a *network user* of its *network*.

(2) **{Incident coordinator's power under a protocol}** Subject to rule 188(~~6~~5), the *incident coordinator* may at any time when permitted by rule 186 or while a *protocol* is *active* if permitted by the *protocol*, issue a *direction* in accordance with rule 188(3) to —

- (i) a *registered NSP* other than the *NSP* of an *integrated mining network* or an integrated LNG network; and
- (ii) the *controller* of any *facility connected* to a *covered network*; and
- (iii) an *ESS provider*; and
- (iv) a *network user* of a *covered network*; and
- (v) if necessary, to the *registered NSP* of an *integrated mining network*, or to the *controller* of a *facility connected* to an *integrated mining network*, but only to the extent and for the purposes set out in rule 5-: and
- (vi) if necessary, to the registered NSP of an integrated LNG network, or to the controller of a facility connected to an integrated LNG network, but only to the extent and for the purposes set out in rule 5A, and subject to rules 172(4) and 188(4).

{Rules 5, 5A, 172(4)-(6) and 188(4) ~~sets~~ out the extent to which these rules may affect the operation of a *private power system*.}

(3) **{Permitted content}** A *direction* under this rule 188 —

- (a) must be limited to what is reasonably necessary to achieve the primary objectives set out in rule 184(1), having regard to the secondary objective set out in rule 184(2); and
- (b) subject to rule 188(~~6~~5), must respect *equipment limits* and *security limits*; and
- (c) must not exceed any limitations in, and must comply with any requirements of, the *protocol framework* or an *active protocol*,

but otherwise, subject to rules 188(3)(a), 188(3)(b), ~~and~~ 188(3)(c) and 188(4) may deal with any matter, and may require the recipient to do or not do (or continue doing or not doing) any thing, that the *registered NSP* or *incident coordinator* (as the case may be) considers reasonably necessary or convenient under *GEIP* to achieve the primary objectives set out in rule 184(1).

{Examples — A *system operations direction* under this rule 188 may —

- (**dispatch** and **constraint**) *direct* a *facility's controller* to increase or decrease its *electricity injection* or withdrawal, either directly (for example, by manual intervention from a *control centre*) or indirectly or automatically (for example by establishing or changing the configuration, settings or pre-programmed setpoints of automatic control systems); and
- (**settings**) requiring a *generator* to activate/deactivate machine settings such as Isoch/AGC; and

- (**outages**) cancel or defer a planned outage that has not yet commenced, or in extreme circumstances recall a facility from outage; and
- (**network**) perhaps, requiring a *registered* NSP to enable an alternative network path; and
- (**dealing with long outages**) if an outage is expected to last for some time, the *direction* may include taking steps to prepare for the next (i.e. second) contingency, i.e. to adapt to the post-contingent state as the 'new normal'.

(4) {Permitted content for system operations directions regarding an integrated LNG system}

A system operations direction issued to:

- (a) an NSP of an integrated LNG network;
- (b) a controller of a facility forming part of an integrated LNG system; or
- (c) a network user under a network access contract by which an integrated LNG network obtains access to a covered network.

may only require the NSP, controller or network user (as the case may be) to:

- (d) decrease its withdrawal of electricity at the relevant interconnection point;
- (e) disconnect the relevant interconnection point; or
- (f) reduce its injection of electricity at the relevant interconnection point but only if the controller or network user believes in good faith it can do so in a way which does not affect the reliability, security and/or safety of the integrated LNG system or compliance with applicable laws.

and, for the avoidance of doubt, nothing in rule 5A(2) limits the application of this rule 188(4).

[Drafting Note: This does not extend to constraint directions issued under rule 258.]

~~(4)~~(5) {**Directions and contractual powers**} If a *registered NSP* is empowered by this rule 188 to give a *direction* to a person, and also has a contractual power to impose a comparable requirement on the person, then the same notice can have effect as an exercise of the contractual power in accordance with its terms, and as a *direction* under this rule 188.

~~(5)~~(6) {**Use of overload ratings**} Unless the *protocol framework* or a *protocol* provides otherwise, a *direction* seeking to utilise the *overload rating* of a *facility* or *network element* should not be given without first consulting the relevant *registered controller* or *registered NSP*.

188A Power to disconnect an integrated LNG system

(1) The registered NSP of a network to which an integrated LNG system is connected, the incident coordinator, the ISO control desk and the owner of an integrated LNG system may, at any time and for any reason, disconnect the integrated LNG system from the NWIS if it considers doing so is reasonably necessary under GEIP to achieve the primary objectives set out in rule 184(1), provided that (subject to rule 188A(2)) the registered NSP, incident coordinator or ISO control desk (where applicable) gives the relevant controller or network user as much notice of the upcoming disconnection as is practicable in the circumstances.

(2) The obligation imposed on a registered NSP, incident controller and ISO control desk under rule 188A(1) to provide as much notice as practicable in the circumstances may be satisfied by

[providing no notice where the need to disconnect is so urgent under GEIP to achieve the primary objectives set out in rule 184\(1\) that prior notice cannot reasonably be given.](#)

189 Directions in emergencies

Despite anything in this Subchapter 7.5, or in the *protocol framework* or a *protocol* [\(but subject to rules 172\(4\) and 188\(4\)\)](#) —

- (a) a registered NSP may give a direction to a recipient named in rule 188(1); and
- (b) the *ISO* or the *ISO control desk* may give a *direction* to a recipient named in rule 188(2),

in whatever form and with whatever content it judges necessary, if it believes in good faith that emergency circumstances exist which justify its doing so under *GEIP*, including in order to maintain the *power system inside the technical envelope*, prevent death or injury or damage to *equipment*, or avoid load shedding.

...

191 ISO may intervene in respect of equipment which jeopardises security or reliability

- (1) If at any time the *ISO* determines that *equipment* being, or remaining, connected to a *network* creates a *credible* risk to *security* or *reliability*, and that the risk is not adequately being managed by the *registered NSP*, it may give a notice to any or all of the *registered NSP*, a *network user* or the *controller* of equipment requiring the recipient of the notice to take steps to remedy the situation.
- (2) A notice under section 191(1) may [subject to rule 172\(4\)](#), do any or all of the following —
 - (a) require the *registered NSP* to decline permission to connect *equipment*; and
 - (b) require the *registered NSP* to perform a function or exercise a power under these rules in a particular way; and
 - (c) require the recipient of the notice to disconnect *equipment* or procure its disconnection; and
 - (d) require the recipient to take, or procure the taking of, any other reasonable measure with a view to achieving the *system security objective*; and
 - (e) specify the time within which a thing is to be done, including immediately; and
 - (f) withdraw, amend or supplement a previous notice under section 191(1).

...

Subchapter 7.6 – Post-incident discussion and investigation

193 Objectives of this Subchapter 7.6

- (1) This Subchapter 7.6's primary objective is to enable and promote —
 - (a) continuous improvement of these rules, the *procedures*, and the operation of the *power system*; and
 - (b) appropriate accountability for *rules participants*,

with a view to *maintaining* and improving *security* and *reliability*.

- (2) This Subchapter 7.6's secondary objective is to pursue the primary objective —
- (a) as efficiently as possible, having regard to the compliance burden and cost of post-incident discussion and investigation for both the *ISO* and other *rules participants*; and
 - (b) having regard to rule 5 [and rule 5A](#); and
 - (c) in a manner which balances transparency with candour.

...

Chapter 9 – Network matters

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Subchapter 9.1 – Constrained network access

248 Application – Initial covered networks only

...

- (2) If a *network* other than the *Horizon Power coastal network* and the *Alinta Port Hedland network* is to become a *covered network*, then the *Coordinator* is to conduct a review of how constrained access should be implemented for the *network*, taking into account —

...

- (b) the operational and technical requirements necessary for the safe, *secure* and *reliable* operation of —
- (i) the *network*; and
 - (ii) if the *network* is an *integrated mining network* — the *integrated mining system* of which it forms part; [and](#)
 - [\(iii\) if the *network* is an *integrated LNG network* — the *integrated LNG system* of which it forms part;](#)
- and
- (c) the legitimate business interests of the *NSP* and of *network users* who are *associates* of the *NSP*, including whether any legacy priority rights are needed —
- (i) in respect of the *network*; and
 - (ii) if the *network* is an *integrated mining network* — in connection with their use of the *integrated mining system* of which it forms part; [and](#)
 - [\(iii\) If the *network* is an *integrated LNG network* — in connection with their use of the *integrated LNG system* of which it forms part;](#)

...

Subchapter 9.2 – Access and connection

...

269 Connection standards are NSP's responsibility

A *registered NSP* must not permit a *new connection* to be *energized* unless —

- (a) all *facilities connected*, or to be *connected*, at the *new connection* comply with these rules including [\(subject to rule 5A\(2\)\(g\)\)](#) the *harmonised technical rules*; and

...

Chapter 10 – Planning and reporting

Subchapter 10.1 – Long term coordination and planning

...

277 Network coordination and planning objectives

- (1) Subject to rule 276, the primary objective of this Subchapter 10.1 is to produce reports which —
- (a) provide credible, independent information over substantial forecast periods for potential developers of *electricity networks, generating works* and *loads* in the Pilbara, with the aim of —
 - (i) promoting efficient use of and investment in; and
 - (ii) facilitating efficient and coordinated development of, existing, new and *augmented Pilbara networks*; and
 - (b) to facilitate access under the *Access Code* to the services of *covered networks*.
- (2) The secondary objective of this Subchapter 10.1 is to pursue the primary objective in a manner which —
- (a) so far as reasonably practicable, minimises cost and disruption to *rules participants*; and
 - (b) in connection with an integrated mining network — has regard to rule 5, but only until evolution occurs as contemplated by rule 276-; [and](#)
 - (c) [in connection with an integrated LNG network – has regard to rule 5A, but only until evolution occurs as contemplated by rule 276.](#)

...

Appendix 4 – Transitional rules

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Sub-appendix 4.4 – Power system operation without an ISO

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Directions in emergencies

A4.28 (1) A *registered NSP* may give a direction to —

- (a) the *controller* of any *facility* connected to its *network*; and
- (b) a *network user* of its *network*,

in whatever form and with whatever content it judges necessary, if it believes in good faith that emergency circumstances exist which justify it doing so under *GEIP*, including in order to pursue the *system security objective*, prevent death or injury or damage to *equipment*, or avoid *load shedding*.

(2) A controller of a facility within an integrated LNG system and a network user under a network access contract by which an integrated LNG network obtains access to a covered network does not have to comply with a direction under A4.28(1) except to the extent the direction requires the controller or network user to:

- (a) reduce its withdrawal of electricity at the relevant interconnection point;
- (b) disconnect the relevant interconnection point; or
- (c) reduce its injection of electricity at the relevant interconnection point but only if the controller or network user believes in good faith it can do so in a way which does not affect the reliability, security and or safety of the integrated LNG system or compliance with applicable laws.

(3) If a controller or network user forms the view under A4.28(2)(c) that it cannot reduce its injection of electricity in a way which does not affect the reliability, security and or safety of the integrated LNG system or compliance with applicable laws, then it must instead disconnect the relevant interconnection point.

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Sub-appendix 4.7 – Harmonised technical rules

Harmonised technical rules apply

A4.54 Subject to exemptions under the rules and legacy rights under Appendix 3, **and** to rule 5 {Integrated mining systems}, and to rule 5A {Integrated LNG systems} the *harmonised technical rules* apply.

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