



Environmental
Protection
Authority

Pilbara Energy Project Expansion

APA DEWAP Pty Ltd (ACN 058 070 689)

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This assessment report has been prepared by the Environmental Protection Authority (EPA) under s. 44 of the *Environmental Protection Act 1986* (WA). It describes the outcomes of the EPA's assessment of the Pilbara Energy Project Expansion proposal by APA DEWAP Pty Ltd.

This assessment report is for the Western Australian Minister for Environment and sets out:

- what the EPA considers to be the key environmental factors identified in the course of the assessment
- the EPA's recommendations as to whether or not the proposal may be implemented and, if it recommends that implementation be allowed, the conditions and procedures, if any, to which implementation should be subject
- other information, advice and recommendations as the EPA thinks fit.



Darren Walsh
Chair
Environmental Protection Authority

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Summary

Proposal

The Pilbara Energy Project (PEP) Expansion (the proposal) is a significant amendment of the approved Pilbara Energy Project (Ministerial Statement 333) and includes the expansion of the Port Hedland Power Station (PHPS) from 140 MW to 200 MW nominal total installed capacity and approximately 400 kilometres (km) of high-voltage power transmission line from Port Hedland to Newman.

The PHPS is located approximately 12 km south of Port Hedland within the Boodarie Strategic Industrial Area (SIA), and the Port Hedland to Newman Transmission Line connects the PHPS with Newman in the Pilbara region of Western Australia (See Figures 1 & 2).

The proposal was referred to the EPA by a third party, the Town of Port Hedland, on 30 September 2020. The proponent for the proposal is APA DEWAP Pty Ltd (formerly Alinta DEWAP Pty Ltd).

No additional clearing of vegetation is required for the proposal (beyond that already approved within MS 333); however, the proposal will result in additional atmospheric and GHG emissions being produced by the PHPS.

The EPA considers the siting of the proposal in an existing industrial area, and its use of existing facilities, are consistent with good environmental practice and with the *Environmental Protection Act 1986* (EP Act) objectives.

Assessment of key environmental factors

The EPA has assessed the key environmental factors listed below for consistency with the EPA environmental factor objectives. As the proposal is a significant amendment to an existing proposal the EPA's assessment has been undertaken in the context of the existing proposal, having regard to the combined and cumulative effects on the environment. The EPA has also considered the potential impacts to other environmental factors such as flora and vegetation, terrestrial fauna, and social surroundings in Appendix D. The EPA has also considered previous ministerial conditions and commitments in MS333, and if still relevant, has replaced them with contemporary conditions, otherwise they have been deleted (see Appendix I).

Environmental factor: Air quality	
Residual impact on key value	Assessment finding / environmental outcome
The proposal has the potential to impact on air quality and the associated environmental values of	The proposal's cumulative impacts on human health and amenity are unlikely to be significant given that the predicted NO _x and CO ground level concentrations (GLC) at nearby sensitive receptors

<p>human health and amenity due to the additional quantities of oxides of nitrogen (NO_x) and carbon monoxide (CO) emissions that will be generated.</p> <p>Air quality impacts from fugitive dust emissions during construction will only be temporary in nature and are not expected to be significant as there are no sensitive receptors located nearby.</p>	<p>are below the applicable National Environment Protection (Ambient Air Quality) Measure (NEPM) criteria.</p> <p>The proponent's air quality modelling predicted a cumulative maximum 1-hour NO₂ GLC at a nearby sensitive receptor of 86.4 µg/m³ under a worst-case scenario, which is equivalent to about 52.7% of the applicable NEPM criteria of 164 µg/m³ based on an ambient temperature of 0°C.</p> <p>The Department of Water and Environmental Regulation (DWER) advised that a more conservative NO_x / NO₂ conversion technique is appropriate. As such using the appropriate conversion technique results in a maximum predicted cumulative 1-hour NO₂ GLC at a nearby sensitive receptor of 109 µg/m³ under a worst-case scenario, which is about 72.7% of the applicable adjusted NEPM criteria.</p> <p>The proponent has advised that the power generation infrastructure is being optimised to reduce carbon emissions which results in a trade-off with increased NO_x emissions. The EPA considers that the proposal's NO_x emissions are likely to take up a significant portion of the Port Hedland airshed. The EPA is aware that other large scale industrial development proposals that are also likely to contribute significant quantities of air emissions are likely to be located within the Boodarie SIA and surrounding areas in the near future. Therefore, the PEP Expansion proposal's additional NO_x emissions have the potential to restrict the extent of future industrial development within the Port Hedland airshed.</p> <p>The EPA also notes that the proponent has subsequently advised that it intends to review reasonably practicable technological options that can be implemented to reduce NO_x emissions from the PHPS, and that it will report to DWER every three years. To ensure a continuous improvement approach to progressively reduce emissions, the EPA recommends condition B-1 which requires air emissions to remain below accepted standards and criteria and condition B-5 requiring environmental performance reporting on air quality emissions to be conducted every three years.</p> <p>Air emissions will also continue to be regulated under Part V of the EP Act via the existing Part V Licence L7336/1998/10. The EPA advises that Licence L7336/1998/10 is likely to require amendment to capture the proposed changes and include appropriate emission limits for the additional power generating infrastructure comprising this proposal.</p> <p>The EPA considers that subject to the above recommended conditions and DMA regulation, the environmental outcome is likely consistent with its objective for air quality.</p>
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Environmental factor: Greenhouse gas emissions	
Residual impact on key value	Assessment finding / environmental outcome
Cumulative GHG emissions contribute to climate change, which impacts on WA's environment.	Avoidance and minimisation measures to reduce scope 1 GHG emissions by 2030: The proponent has adopted some upfront avoidance and mitigation measures to reduce GHG emissions from proposal commencement. Benchmarking shows that the GHG

<p>Scope 1 GHG emissions of up to 1,084,019 tonnes of CO₂-e / annum during operations. The proposal will abate approximately 13,008,233 tonnes of scope 1 CO₂-e over its 50-year operating life with the proposed mitigation and emissions reduction targets.</p> <p>There is no scope 2 GHG emissions associated with the proposal.</p> <p>Scope 3 GHG emissions from construction are likely to be insignificant. Scope 3 GHG emissions of approximately 84,147 tonnes of CO₂-e / annum during operations and about 4,207,350 tonnes of scope 3 CO₂-e over the 50-year operating life.</p>	<p>emissions intensity is within 10% of the best performing (comparable) emission intensities identified within the literature, and that the proposal's proposed mitigation measures to be implemented or planned, represent best practice when compared to comparable gas-fired power generation proposal in Western Australia.</p> <p>The EPA notes that the implementation of renewable power generation does not form part of the proposal, however, it is likely to form an increasing part of the power generation infrastructure in the Pilbara and the push to decarbonise electricity generation (supported by energy storage infrastructure).</p> <p>The EPA has determined that emissions avoidance and mitigation measures should continue to be reviewed and implemented for the life of the proposal, through five-yearly reviews. The EPA recommends this be achieved through condition B2-2 requiring a GHG Emissions Management Plan (GHGEMP) to be reviewed, approved, and implemented.</p> <p>Trajectory from 2030 to net zero by 2050: The proponent has proposed a linear trajectory of emissions reductions to net-zero by 2050. This is consistent with the EPA's usual minimum expectations for proposals. The EPA considers that these emission reductions are reasonably achievable with a combination of new and emerging technology and offsets, and ongoing five-yearly reviews of the GHGEMP. The EPA recommends the emissions reduction trajectory be required through condition B2-1.</p> <p>Commonwealth Safeguard operation: The proponent has advised that the proposal will form part of the 'Port Hedland Power Station' National Greenhouse and Energy Reporting (NGER) Facility and a Safeguard Facility, which is captured under the Sectoral Baseline by the NGER (Safeguard Mechanism) Rule 2015 (Safeguard Rule) as it is a grid-connected electricity generator. However, the EPA notes the electricity sector baseline is considerably higher (198 million tonnes CO₂-e) than the total reported scope one emissions for the sector (In 2022–23, total reported scope 1 emissions from grid-connected generators were 137.2 million tonnes CO₂-e.) (CER 2024). As such the Safeguard mechanism will not drive a reduction in greenhouse gas emissions to support the EPA's greenhouse gas objective, therefore the EPA recommends condition B2-1.</p> <p>To reduce the potential for future duplication of GHG emission regulation, the EPA recommends condition C1-1(2) be included so that the Chief Executive Officer (CEO) of DWER can ensure that the requirements of the GHGEMP can be met by another decision making process (e.g. under the Safeguard mechanism).</p> <p>Offsets: The proponent has advised that if offsets are required to ensure that net GHG emissions meet its trajectory towards zero emissions by 2050, they will include a combination of Australian Carbon Credit Units, Verified Emission Reductions and Verified Carbon Units issued under the Gold Standard program, and other offset units that meet integrity principles and are based on clear, enforceable and accountable methods. The EPA considers that offsets are likely to be reasonably available and recommends</p>
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	condition B2-2(4) to ensure that any offsets required meet the integrity principles.
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Holistic assessment

The EPA considered the connections and interactions between relevant environmental factors and values to inform a holistic view of impacts to the whole environment. The EPA formed the view that the holistic impacts would not alter the EPA's conclusions about consistency with the EPA factor objectives.

Conclusion and recommendations

The EPA has taken the following into account in its assessment of the proposal:

- environmental values which may be significantly affected by the proposal
- residual impacts, emissions and effects in relation to the key environmental factors, separately and holistically (this has included considering cumulative impacts of atmospheric pollutant emissions and GHG emissions)
- likely environmental outcomes (taking into account the EPA's recommended conditions), and the consistency of these outcomes with the EPA objectives for the key environmental factors
- the EPA's confidence in the proponent's proposed mitigation measures
- whether other statutory decision-making processes can mitigate the potential impacts of the proposal on the environment
- principles of the *Environmental Protection Act 1986* (EP Act).

The EPA has recommended that the proposal may be implemented subject to conditions recommended in Appendix A.

1 Proposal

The Pilbara Energy Project (PEP) Expansion (the proposal) includes the expansion of the Port Hedland Power Station (PHPS) from 140 megawatts (MW) to 200 MW nominal total installed capacity and approximately 400 kilometres (km) of high-voltage power transmission line from Port Hedland to Newman.

The PHPS is located approximately 12 km south of Port Hedland, within the Boodarie Strategic Industrial Area (SIA). The Port Hedland to Newman Transmission Line connects the PHPS with Newman in the Pilbara region of Western Australia (See Figures 1 & 2).

The proponent for the proposal is APA DEWAP Pty Ltd (formerly Alinta DEWAP Pty Ltd). However, the Town of Port Hedland referred the proposal to the EPA on 30 September 2020. The referral supporting information that was subsequently provided by the proponent (Blueprint 2021) was published on the EPA's website for seven-days public comment. On 13 September 2021, the EPA decided to assess the proposal at the level of Referral information with additional information required (no public review). However, on 16 February 2023 it was determined that the proposal should be assessed as a significant amendment to an approved proposal (i.e. the Pilbara Energy Project - Ministerial Statement 333 (MS 333)) under Section 40AA of the *Environmental Protection Act 1986* (EP Act).

Background

Ministerial Statement 333

The PEP was originally assessed by the EPA (Bulletin 725, published 9 December 1993) and was subject to MS 333, which was published on 5 January 1994. The proposal at that time was for the construction and operation of the PHPS with a nominal generating capacity of 140 MW consisting of four open cycle gas turbines with a site capacity for expansion to 8 gas turbines, the Port Hedland Gas Pipeline, and the Port Hedland to Newman Transmission Line.

Transfer of responsibility of the proposal

The original proponent for the PEP was Pilbara Energy Limited (PEL). In 1999, Duke Energy WA Power Pty Ltd (DEWAP) and Duke Energy WA Holdings Pty Ltd (DEWAH) took ownership of the Port Hedland Power Station and the Port Hedland to Newman Transmission Line, and Epic Energy Pty Ltd (Epic) retained ownership of the Port Hedland Gas Pipeline. The PEP was subject to a State Agreement, the *Pilbara Energy Project Agreement 1993* which was terminated in 2013.

In 2004, DEWAP and DEWAH were acquired by subsidiaries of Alinta Energy, becoming Alinta DEWAP Pty Ltd and Alinta DEWAH Pty Ltd, respectively. Consequently, Alinta DEWAP Pty Ltd and Alinta DEWAH Pty Ltd became the owner/operators of the Port Hedland Power Station and the Port Hedland to Newman Transmission Line (which is yet to be built).

The Port Hedland Gas Pipeline is currently owned and operated by APA Group Limited (formerly Epic) and the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) has advised that the operation and decommissioning of the pipeline can continue to be regulated under the *Petroleum Pipelines Act 1969* and the Petroleum Pipelines (Environment) Regulations 2012.

Following a request under Section 38I(2) of the EP Act, Alinta DEWAP Pty Ltd was nominated as the proponent for MS 333 on 7 May 2023. In early 2024, Alinta DEWAP Pty Ltd changed its name to APA DEWAP Pty Ltd.

Proposal amendments

The original referred proposal is set out in Section 2.3 of the proponent's Referral Supporting Document (Blueprint 2021), which is available on the [EPA website](#). Although the referred proposal constitutes a significant amendment to the approved PEP, it did not refer to all the elements of the PEP, in particular, the Port Hedland Gas Pipeline, and the Port Hedland to Newman Transmission Line, or clarify how they relate to it.

On 16 June 2023, the proponent requested EPA consent to change the referred proposal during the assessment under Section 43A of the EP Act. A revised version of the proponent's Section 43A request was subsequently submitted to the EPA on 13 May 2024.

The changes to the referred proposal are detailed on the [EPA website](#) via the EPA Chair's Notice of 17 June 2024. The relevant changes to the assessment of impacts to the key environmental factors of air quality and greenhouse gas include:

- Change the proposal physical element "Gas turbine power station" to "Power Station".
- Change the proposal operational element "Gas turbine power station" to "Power Station".
- Clarification that the revised proposal is 'Increasing the nominal total generating capacity of the PHPS from 140 MW to 200 MW via the installation of a natural gas fuelled reciprocating engine generating set producing 60 MW'.
- Specifying that the maximum scope 1 GHG emissions quantity for the proposal will increase from approximately 834,192 tonnes of CO₂-e per annum up to 1,084,019 tonnes of CO₂-e per annum to reflect the increase in nominal maximum generating capacity from 140 MW to 200 MW.
- Specifying that the scope 3 GHG emissions for the Power Station are about 84,147 tonnes of CO₂-e per annum.

The changes were assessed to be unlikely to significantly increase any impacts of the proposal on the environment. The consolidated and updated elements of the proposal which have been subject to the EPA's assessment are included in Table 1 and Table 2.

The EPA has assessed the residual impacts of the significant amendment by considering the expansion and changes which are now proposed in the context of

the original proposal. The EPA has also considered the combined impacts of the original proposal and the proposed changes, and cumulative impacts of the significant amendment with other proposals in the region. The EPA has considered new information on the mitigation of impacts on the approved proposal and significant amendment.

Table 1: General proposal content description

Proposal title	Pilbara Energy Project Expansion
Proponent name	APA DEWAP Pty Ltd
Short description	The proposal includes the expansion of the Power Station from 140 MW to 200 MW nominal total installed capacity and approximately 400 km of high-voltage power transmission line from Port Hedland to Newman.

Table 2: Proposal content elements

Proposal element	Location	Original Proposal (MS 333)	Combined proposal
Physical elements			
Gas turbine power station	Figure 1 and Figure 2.	Not specified in the Referral Supporting Document or MS 333, however, the PEP CER states: The overall facility will encompass an area of approximately 350 m x 450 m. This equals an area of about 15.75 ha.	Power Station with disturbance of no more than 15.75 ha within a 2,549 ha development envelope.
Transmission Line	Figure 1 and Figure 2.	Not specified in the Referral Supporting Document or MS 333, however, the PEP CER states: 400 km 220 kV transmission line, 25 – 35 m high with a span between towers of 300 – 400 m and a 60 m easement from Port Hedland to Newman and approximately 450 ha of disturbance.	Disturbance of no more than 450 ha within a 2,549 ha development envelope.
Operational elements			
Gas turbine power station	Figure 1 and Figure 2.	Not specified in MS 333. The PEP CER states: 140 MW nominal total installed capacity. Assumed to be based on the 35 MW nominal installed capacity of the three existing gas turbines and a fourth 35 MW gas turbine that was previously approved as part of the PEP, but not installed. The Referral Supporting Document specifies the installation of a 60 MW natural gas fuelled reciprocating engine generating set and supporting infrastructure.	Power Station with 200 MW nominal total installed capacity.

Proposal element	Location	Original Proposal (MS 333)	Combined proposal
Water Supply	N/A	Not specified in the Referral Supporting Document or MS 333, however, the PEP CER states: Sourced from Port Hedland mains water supply.	Water supply sourced from Port Hedland mains water supply.
Proposal elements with greenhouse gas emissions			
Construction elements			
Scope 1	N/A	Not specified in the PEP CER, MS 333, or the Referral Supporting Document.	For the Power Station and the Transmission Line estimated to be less than 5,000 tonnes of CO₂-e (emissions from small amounts of diesel fuel used for mobile construction equipment). Emissions associated with vegetation clearing for construction are estimated at 53,561 tonnes of CO₂-e .
Scope 2	N/A	Not specified in the PEP CER, MS 333, or the Referral Supporting Document.	Zero scope 2 emissions.
Scope 3	N/A	Not specified in the PEP CER, MS 333, or the Referral Supporting Document.	Scope 3 emissions unlikely to be significant .
Operation elements			
Scope 1	N/A	Not specified in the PEP CER or MS 333. The Referral Supporting Document specifies an additional 249,827 tonnes of CO ₂ -e per annum produced from the 60 MW of natural gas fuelled reciprocating engines.	Total emissions of 1,084,019 tonnes of CO₂-e per annum from the Power Station. Emissions from the Transmission Line estimated to be less than 50 tonnes of CO₂-e per annum (emissions from small amounts of diesel fuel used for mobile maintenance equipment).
Scope 2	N/A	Not specified in the PEP CER, MS 333, or the Referral Supporting Document.	Zero scope 2 emissions.
Scope 3	N/A	Not specified in the PEP CER, MS 333, or the Referral Supporting Document.	Total emissions from the Power Station of about 84,147 tonnes of CO₂-e per annum . Transmission Line scope 3 emissions unlikely to be significant .
Rehabilitation			
Rehabilitation	N/A	Not included in the Referral Supporting Document. The PEP CER indicates that all areas disturbed during construction that are no longer required for the operation phase will be rehabilitated.	All areas disturbed during construction that are no longer required for the operation phase will be rehabilitated.

Proposal element	Location	Original Proposal (MS 333)	Combined proposal
Commissioning			
Commissioning	N/A	Not included in the Referral Supporting Document. The PEP CER indicates that the gas pipeline will be hydrostatically pressure tested. Commissioning of the gas turbine power station is not specified in the PEP CER or MS 333.	Commissioning of the approved fourth gas turbine and/or the natural gas fuelled reciprocating engines.
Decommissioning			
Decommissioning	N/A	Not specified in the PEP CER, MS 333, or the Referral Supporting Document.	Removal of all above surface infrastructure after cessation of operation.
Timing elements			
Maximum project life	N/A	Not specified in the PEP CER, MS 333, or the Referral Supporting Document.	55 years.
Construction phase		Not specified in the Referral Supporting Document or MS 333. The PEP CER indicates: - Power Station: 18 months. - Transmission Line: 2 years. - Gas pipeline: 5 months.	3 years.
Operations phase		Not specified in the PEP CER, MS 333, or the Referral Supporting Document.	50 years.
Decommissioning phase		Not specified in the PEP CER, MS 333, or the Referral Supporting Document.	2 years.

Units and abbreviations

CER	Consultative Environmental Review
CO ₂ -e	carbon dioxide equivalent
ha	hectares
km	kilometres
kV	kilovolts
MW	megawatts
PEP	Pilbara Energy Project

Proposal alternatives and context

The proposal is a brownfield site within the existing approved PHPS facility, and the proponent's primary purpose for the proposal is to increase efficiency and reduce GHG emissions associated with the generation of electricity from the PHPS. The transmission line infrastructure (yet to be built) will follow the same path as approved under MS 333. Therefore, the proponent did not consider alternative locations for the proposal.

The existing PHPS is located within the Boodarie SIA approximately 12 km south of the Port Hedland town centre and approximately 5 km west-south-west of South Hedland (See Figure 1). The location of the proposal within the Boodarie SIA provides a location with sufficient buffers, with the Boodarie SIA zoned as 'Strategic Industry' under the Town of Port Hedland Town Planning Scheme No. 5 permitting the development of heavy/strategic industries. The Boodarie SIA is traversed by a number of regional services, including the APA Group gas pipeline, North-West Coastal Highway, Water Corporation infrastructure, and numerous electricity transmission lines.

The PHPS currently operates under Part V Licence (L7336/1998/10), Prescribed Premises Category 52: Electric power generation.

Consultation

The EPA published the third-party referral information for the proposal together with additional supporting information provided by the proponent on its website for a seven-day public comment period which commenced on 25 June 2021 and ended on 1 July 2021. The EPA considered the comments received during this public consultation period in its assessment.

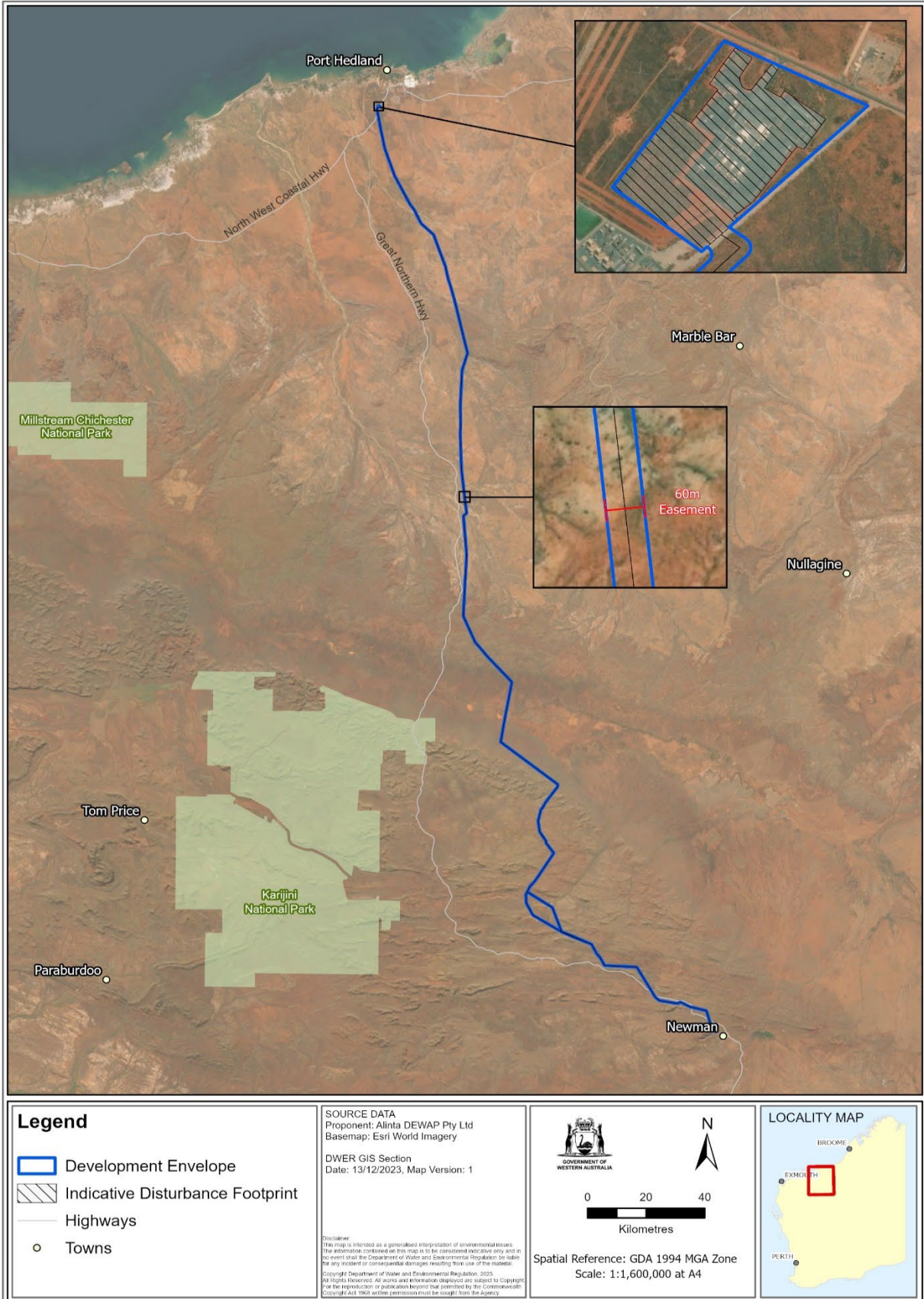


Figure 1: Project location, development envelope, and indicative disturbance footprint



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Figure 2: Proposal development envelope and indicative disturbance footprint

2 Assessment of key environmental factors

This section reports on the outcome of the EPA's assessment of the key environmental factors against its environmental objectives, and its recommendations on conditions that the proposal should be subject to if it is implemented.

The EPA has considered the principles of the EP Act (see Appendix D) in assessing whether the residual impacts will be consistent with its environmental factor objectives.

The EPA has assessed the proposal in the context of the approved proposal (MS 333) while having regard to the combined and cumulative effect that the implementation of the approved proposal and significant amendment may have on the following key environmental factors.

The EPA evaluated the impacts of the proposal on other environmental factors and concluded these were not key factors for the assessment. This evaluation is included in Appendix E. The EPA considered previous ministerial conditions and commitments of MS 333 and has provided an explanation in Appendix I how these have been considered in this assessment and if still relevant, they have been replaced with a contemporary condition(s), or otherwise deleted.

2.1 Air quality

The EPA environmental objective for air quality is *to maintain air quality and minimise emissions so that environmental values are protected* (EPA 2020).

The proponent submitted the following investigations for the assessment:

- (Northstar 2024a), *Port Hedland Power Station Expansion, Addendum Air Quality Impact Assessment*
- (Northstar 2024b), *Port Hedland Power Station Expansion – Emissions Estimation Data* (Confidential).

The EPA sought advice from DWER in relation to the air quality modelling that was considered as part of this assessment.

Key environmental values and context

The key environmental values associated with air quality are human health and amenity.

The proposal is located in the existing PHPS site which is situated within the Boodarie SIA approximately 12 km south of the Port Hedland town centre and about 5 km west of South Hedland. The Port Hedland Golf Course is located 3 km north-east and Urban Zoned land is located about 4 km east-northeast of the PHPS site. The topography of the proposal is considered to be flat and at a height of approximately 17-18 metres (m) Australian Height Datum (AHD). A ‘Special Control Area’ varying in width from 2 to 3 km surrounds the Boodarie SIA core acting as a buffer (i.e. the Boodarie Industrial Buffer) to minimise the interaction between incompatible land uses with the heavy industries within the Boodarie SIA (DevelopmentWA 2020). The nearest sensitive receptor is located approximately 4.4 km east-south-east of the PHPS (See Table 4 and Figure 3 in Northstar 2024a).

Impacts from the proposal

Assessment finding, environmental outcome and recommended conditions

Potential impacts

Potential to impact on air quality and the associated environmental values of human health and amenity due to the additional quantities of oxides of nitrogen (NO_x) and carbon monoxide (CO) emissions that will be generated. The proponent advised that the gas turbines and reciprocating engines are optimised to minimise carbon emissions, resulting in a trade-off with increased NO_x emissions.

The proposal involves the combustion of natural gas with a relatively low sulfur content (i.e. < 10 mg/m³) in the new reciprocating engine generation sets and gas turbines, emissions of sulfur dioxide (SO₂) and particulates (as PM₁₀ and PM_{2.5}) are not considered to be significant.

Air quality impacts from fugitive dust emissions during construction will only be temporary in nature and are not expected to be significant as there are no sensitive receptors located nearby.

Assessment finding and environmental outcomes

The predicted NO_x and CO ground level concentrations (GLC) at nearby sensitive receptors are all below the applicable National Environment Protection (Ambient Air Quality) Measure (NEPM) criteria. The proponent’s air quality modelling predicted a cumulative maximum 1-hour NO₂ GLC at a nearby sensitive receptor of 86.4 µg/m³ for worst-case Scenario 10 which is equivalent to about 52.7% of the applicable NEPM criteria of 164 µg/m³ based on an ambient temperature of 0°C.

However, DWER advised that the proponent’s revised air quality modelling is not considered to be appropriately conservative as the NO_x / NO₂ conversion technique used is not considered appropriate for the Port Hedland airshed given the lack of ozone (O₃) data in Port Hedland. In this advice, it was indicated that using the appropriate conversion technique and adjusting the applicable NEPM criteria to account for a nominal ambient temperature of 25°C at the PHPS site results in a maximum predicted cumulative 1-hour NO₂ GLC at a nearby sensitive receptor of 109 µg/m³ for worst-case Scenario 10 which is about 72.7% of the applicable adjusted NEPM criteria.

The EPA understands that modelling Scenario 10 which represents an alternative option for the proponent where the fourth gas turbine approved

Avoidance and minimisation measures (including regulation by other DMAs)

The proponent has advised that the three currently operating gas turbines do not use any NO_x control technology such as dry-low NO_x burners to minimise their NO_x emissions (DWER 2023). Current operations and monitoring of NO_x emissions are controlled under Part V of the EP Act via the existing Part V Licence L7336/1998/10.

The proponent has not provided any information on the proposed measures that would be employed to minimise NO_x emissions from the fourth gas turbine and the reciprocating engine generators.

Consultation

During the referral comment period, concerns were raised about the potential impacts on human health from the proposal's oxides of sulfur (SO_x) and NO_x emissions. The public concerns relating to the potential impact of the proposal's SO_x emissions on human health are considered unlikely to be material because the quantity of SO₂ emissions produced by the proposal is insignificant and therefore unlikely to adversely impact on air quality and human health.

Combined effects

The three existing gas turbines in the PHPS have a combined total nominal generating capacity of 105 MW. The proposed increase in generating capacity to 200 MW will increase the total quantity of NO_x and CO emissions from the PHPS significantly.

Cumulative impact

under the PEP that has not been built yet is replaced with 8 additional reciprocating engine generators (to make the total 22) to further reduce GHG emissions.

However, modelling Scenario 9 which represents the current proposal configuration of the three existing gas turbines within the PHPS, the fourth gas turbine approved under the PEP that has not been built yet, and 14 reciprocating engine generators results in a lower maximum predicted cumulative 1-hour NO₂ GLC at a nearby sensitive receptor of 99 µg/m³ which is 66% of the applicable adjusted NEPM criteria.

The EPA queried the absence of NO_x reduction measures as part of the proposal. The proponent advised that NO_x reduction measures were not warranted on the basis that emissions were estimated to be below NEPM criteria and therefore not considered to pose an unacceptable risk to human health under current conditions. The proponent advised that the power generation infrastructure is being optimised to reduce carbon emissions which results in a trade-off of increased NO_x emissions. The EPA considers that the proposal's NO_x emissions are likely to take up a significant portion of the Port Hedland airshed. The EPA is aware that other large scale industrial development proposals that are likely to contribute significant quantities of air emissions to the Port Hedland airshed, and the PEP Expansion proposal has the potential to restrict the extent of future industrial development within the Port Hedland airshed. To promote continuous improvement in environmental performance, given the reasonably foreseeable cumulative impacts to the Port Hedland airshed. The EPA has recommended condition B5 to require the proponent to review and report to DWER on technological options and their implementation timeframe to reduce NO_x emissions from the PHPS.

Environmental outcomes for human health and amenity are likely to be consistent with the EPA's objective for air quality provided that the proponent is required to ensure a regional (i.e. Port Hedland Airshed) air quality environmental outcome in accordance with acceptable standards (such as the NEPM standards), and to report on impacts to air quality and potential improvements including the progressive reduction of NO_x emissions.

The EPA considered the cumulative impact of the proposal's additional air emissions by assessing the outcomes of the cumulative air quality modelling that was undertaken by the proponent which included emissions from all existing sources and background air quality within the Port Hedland airshed. The proposal's predicted cumulative impacts on human health and amenity at sensitive receptor locations are not likely to be significant given that the predicted NO₂ and CO GLCs are below the applicable NEPM criteria.

Recommended conditions to ensure consistency of environmental outcome with EPA objective

Condition B1

- requires air emissions to the Port Hedland airshed from the proposal to be below acceptable standards.

Condition B5

- requires three yearly environmental performance reporting to be implemented, which includes a risk assessment of cumulative air emission impacts; an assessment of continuous improvement options to progressively reduce NO_x emissions; and timeframe for the implementation of any air pollution control measure.

Other decision-making processes

Air emissions can continue to be regulated under Part V of the EP Act via the existing Part V Licence L7336/1998/10, which will be required to be amended to:

- refer to the proposal's additional plant and infrastructure.
- include the increased maximum nominal power generation capacity of 200 MW.
- include stack emission limits for NO_x for the proposed reciprocating engine generator sets and the gas turbines that are consistent with the implementation of best practice to achieve the lowest NO_x emissions from these sources.

2.2 Greenhouse gas emissions

The EPA environmental objective for greenhouse gas (GHG) emissions is *to minimise the risk of environmental harm associated with climate change by reducing greenhouse gas emissions as far as practicable.*

The proponent submitted the APA Pilbara Energy Project Expansion Greenhouse Gas Environmental Management Plan (GHGEMP) (Version: 2 July 2024) and the Pilbara Energy Project Expansion greenhouse gas environmental management plan – Expert review (Version 4, 29 April 2024) (Energetics 2024) to the EPA on 3 July 2024 and 14 May 2024, respectively. The EPA has used these documents as the basis for its assessment.

Key environmental values and context

GHG emissions from a cumulative range of sources have an impact on Western Australia's environment, even if the specific impact of a particular proposal's emissions may not be known with certainty. This is because there is an established link between GHG emissions and the risk of climate change. The EPA recognises that climate change will have an impact on Western Australia's environment and environmental values. For example, climate change has already caused a significant drying of the state's south-west, which in turn places significant additional pressures on water resources, flora and fauna, marine environmental quality, and social surroundings.

There is also an established correlation between global temperature rise and greenhouse gas emissions. The EPA advises that for every 1,000 billion tonnes [i.e. 1 gigatonne (1 Gt)] of CO₂ emitted by human activity, global surface temperature rises by 0.45°C, as a best estimate, with a likely range from 0.27°C to 0.63°C (IPCC 2023).

The EPA therefore usually assesses proposals where GHG emissions are reasonably likely to exceed 100,000 tonnes of scope 1 or scope 2 emissions each year measured in tonnes of CO₂-e.

The EPA considers carbon budgets and percentages of Western Australia's GHG emissions to be a tool to inform assessment, but these tools alone do not determine the assessment outcome. The best estimates of the remaining global carbon budgets from the beginning of 2020 are 500 Gt of CO₂ for a 50% likelihood of limiting global warming to 1.5°C (IPCC 2023). Remaining carbon budgets from 2020 depend on emissions and emissions mitigation from that time (IPCC 2023).

In the absence of any emissions reductions, a total of 54,200,950 tonnes of scope 1 CO₂-e emissions would be expected over the nominal 50-year operating lifespan of the proposal. In comparative terms, Western Australia's annual scope 1 emissions based on 2020 - 2021 levels were 80.2 million tonnes (Mt) of CO₂-e.

The proposal is not expected to generate any scope 2 CO₂-e emissions.

Over its 50-year operational lifespan the proposal would emit about 4,207,350 tonnes of scope 3 GHG emissions without any abatement. Any of the proposal's scope 3 GHG emissions that are emitted in Western Australia will also contribute to Western Australia's scope 1 GHG emissions over time as Western Australia commences its trajectory to net-zero emissions by 2050.

Impacts from the proposal	Assessment finding, environmental outcome and recommended conditions
GHG Emissions estimates	
<p>GHG emissions during construction</p> <p>Scope 1 GHG emissions resulting from construction activities for the Power Station and the Transmission Line are estimated to be less than 5,000 tonnes of CO₂-e and are due to emissions from small amounts of diesel fuel used for mobile construction equipment.</p> <p>Vegetation clearing during the construction of the Transmission Line is estimated to produce about 53,561 tonnes of scope 1 GHG emissions.</p> <p>There is no scope 2 GHG emissions associated with construction activities.</p> <p>Scope 3 GHG emissions associated with construction which include those generated from transport of materials and infrastructure. Scope 3 construction emissions have been conservatively calculated by the proponent for the transport of power generation infrastructure to/from port to site, given the limited quantity of infrastructure components and negligible transport distances. The overall Scope 3 emissions estimate for the significantly amended proposal are not expected to be material.</p> <p>GHG emissions during operations</p> <p>The proponent has provided the following estimates of GHG emissions which are based on continuous operation at full load over a one-year period without mitigation:</p> <ul style="list-style-type: none"> • Scope 1 – a maximum of 1,084,019 tonnes of CO₂-e / annum. • Scope 2 – Nil. • Scope 3 – about 84,147 tonnes of CO₂-e / annum. 	<p>The proponent’s GHGEMP describes the various methodologies that were used to calculate quantities of scope 1 and scope 3 GHG emissions.</p> <p>Scope 1 GHG emissions from construction activities were calculated using the <i>NGERs Emissions and Energy Threshold Calculator (CER, 2023)</i> and were based on predicted vehicle fleet, movements, operating times, and typical fuel efficiencies.</p> <p>Scope 1 GHG emissions from vegetation clearing during construction were calculated using the conversion factor of 115 tonnes of CO₂-e / hectare, the highest conversion factor for the vegetation class of the proposal location under the Transport Authorities Greenhouse Group methodology (TAGG, 2013).</p> <p>Scope 1 GHG emissions during operations were calculated using the NGER Measurement Determination emissions factor of 51.53 kg of CO₂-e / GJ of natural gas consumed.</p> <p>Scope 3 GHG emissions from operations were calculated using the National Greenhouse Accounts (NGA) Factors emissions factor of 4.0 kg of CO₂-e / GJ of natural gas consumed for Western Australia.</p> <p>The EPA considers that the proponent’s estimated GHG emissions quantities are a reliable basis for the assessment.</p>

<p>Combined effects</p> <p>The three existing gas turbines operating within the PHPS site currently generate an estimated 625,644 tonnes of scope 1 CO₂-e / annum. If the fourth gas turbine that was approved as part of the PEP, but has not yet been built, is included, GHG emissions would increase to an estimated 834,192 tonnes of scope 1 CO₂-e / annum. The PEP Expansion proposal will generate an additional 249,827 tonnes of scope 1 CO₂-e / annum. Therefore, in the worst-case scenario, the combined effect of both proposals would result in a maximum of 1,084,019 tonnes of scope 1 CO₂-e / annum being produced. Scope 3 emissions of the significant amendment represent an increase of 19,393 tCO₂-e per annum compared to the original proposal (64,754 tonnes of CO₂-e / annum) to an estimated 84,147 tonnes of CO₂-e / annum.</p> <p>Cumulative effects</p> <p>The annual estimated scope 1 GHG emissions from the combined proposal (without mitigation) of 1,084,019 tonnes of CO₂-e would, at commencement, constitute approximately 1.3% of Western Australia's total emissions (based on 2020 emissions of 82.1 million tonnes of CO₂-e) (Commonwealth of Australia 2023a) and 0.23% of Australia's total reported GHG emissions for 2022 of 463.9 million tonnes of CO₂-e (Commonwealth of Australia 2023b).</p>	
<p>Baseline emissions avoidance and minimisation, including best practise review and benchmarking</p>	
<p>The proponent has identified the following measures to minimise GHG emissions in the GHGEMP:</p> <ul style="list-style-type: none"> • reducing GHG emissions through the use of high efficiency reciprocating engine generators • using flexible dispatch to optimise the overall efficiency of power generation by prioritising the use of the more efficient new reciprocating engine generators before the gas turbines to meet the required load and running the generator sets and gas turbines at the most efficient point in their efficiency curves 	<p>The proposal involves the installation of natural gas-fired reciprocating engine generator sets with a nominal GHG emissions intensity of about 0.48 tonnes of CO₂-e / MWh. This is significantly better than the GHG emissions intensity of 0.68 tonnes of CO₂-e / MWh for the three existing gas turbines and the fourth gas turbine approved as part of the PEP. However, when the reciprocating engine generators and the four gas turbines are operating together at maximum load, the overall GHG emissions intensity of the expanded PHPS is expected to be about 0.62 tonnes of CO₂-e / MWh.</p>

<ul style="list-style-type: none"> • potential substitution of the fourth gas turbine approved as part of the PEP with additional reciprocating engine generators • potential use of carbon capture and storage and renewable hydrogen as a fuel substitute in the future • implementing the GHGEMP (29 April 2024). <p>A technical review of the proponent’s GHGEMP was undertaken by Energetics Pty Ltd (Energetics 2024). The review focussed on evaluating whether:</p> <ul style="list-style-type: none"> • best practice technological measures have been adopted to avoid or reduce the proposal’s scope 1 GHG emissions • offsets that satisfy integrity principles are likely to be reasonably practicable and available at the time of proposed future surrender • the proposal is consistent with, or outperforming, relevant sector pathways and milestones. 	<p>A benchmarking analysis undertaken by the proponent indicates that the:</p> <ul style="list-style-type: none"> • average GHG emissions intensity of the North West Interconnected System (NWIS) is 0.58 tonnes of CO₂-e / MWh • average emissions intensity of other open cycle gas turbine equipped power stations in Western Australia is 0.64 tonnes of CO₂-e / MWh • GHG emissions intensity of combined cycle gas turbine power generating facilities in Western Australia ranges from 0.39 – 0.49 tonnes of CO₂-e / MWh. <p>The Energetics 2024 technical review of the GHGEMP found that:</p> <ul style="list-style-type: none"> • the following best practice (for a gas fired power generation facility) technological design and operation measures were identified within the GHGEMP: <ul style="list-style-type: none"> ○ the use of reciprocating engines for efficiency and network firming; and ○ consideration of dispatch optimisation strategies • the proposed GHG emissions intensity of about 0.48 tonnes of CO₂-e / MWh for the natural gas-fired reciprocating engine generator sets is consistent with other electricity generation operations using natural gas • the commitment to long-term de-carbonisation initiatives such as using renewable hydrogen as a fuel substitute and carbon sequestration and storage are consistent with best practice for gas-fired electrical generation facilities
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- the listed offset units that the proponent intends to use, are consistent with the EPA's requirements
- the GHGEMP outlines a multi-pronged approach to offset acquisition, including spot market purchase, multi-year offtake, and direct project investment to manage supply availability risks
- the GHG emissions reduction targets included in the GHGEMP are consistent with relevant sector pathways and milestones as they are aligned with Federal and State government commitments.

The EPA considers that the proponent has adopted upfront avoidance and mitigation measures to reduce GHG emissions from the commencement of operations of the new reciprocating engine generators. Based on the proponent's benchmarking and the findings of the Energetics 2024 technical review, the proposal is likely to be best practice for gas-fired power generation operations and likely to be consistent with the EPA's environmental factor objective to reduce greenhouse gas emissions as far as practicable.

While not part of this proposal and therefore a component of the EPA's assessment, the EPA notes the implementation of renewable power generation (e.g. wind and solar) and Battery Energy Storage System (BESS) is likely to become more critical to the Pilbara energy solution. The EPA notes that the proposed reciprocating engines provide flexibility to support introduction of renewables at commencement, and over time, especially as the mining sector electrifies its operations in the Pilbara.

	<p>As further avoidance and mitigation measures are likely to become available in the future, the EPA considers that emissions avoidance and mitigation measures should continue to be reviewed and implemented for the life of the proposal, through condition B2-8 requiring the GHGEMP to be reviewed every five years, approved, and implemented.</p>
<p>Emissions trajectory to 2050</p>	
<p>The proponent has proposed a linear trajectory of GHG emissions reductions to net-zero by 2050 as shown in Figure 3 below.</p> <p>The proponent will implement measures to avoid and minimise emissions to progress towards these emissions' reduction targets. Any residual emissions above these targets that cannot be avoided or minimised will be offset.</p>	<p>The EPA notes that the proposed GHG emissions reduction trajectory will mitigate approximately 13,008,233 tonnes of scope 1 GHG emissions over the life of the proposal.</p> <p>The EPA considers that these reductions are reasonably achievable through the adoption of emerging and new technology, and the use of offsets. The EPA notes that the lifespan of the existing gas turbines (25-30 years) means they are unlikely to be replaced with more efficient gas reciprocating engines, however, the EPA considers the emission reductions required through condition B2-1 are likely to ensure consistency with the EPA's environmental factor objective.</p> <p>To provide ongoing certainty that the reductions can be achieved, the EPA also recommends that the GHGEMP be reviewed and revised every five years in condition B2-8. A GHGEMP provides flexibility about how future GHG emissions reductions are achieved.</p>

<table border="1"> <caption>5-year targets</caption> <thead> <tr> <th>Financial Years</th> <th>GHG emissions (tonnes of CO₂-e)</th> </tr> </thead> <tbody> <tr> <td>2027-2031</td> <td>4,948,784</td> </tr> <tr> <td>2032-2036</td> <td>3,770,502</td> </tr> <tr> <td>2037-2041</td> <td>2,592,220</td> </tr> <tr> <td>2042-2046</td> <td>1,413,938</td> </tr> <tr> <td>2047-2050</td> <td>282,788</td> </tr> </tbody> </table>	Financial Years	GHG emissions (tonnes of CO ₂ -e)	2027-2031	4,948,784	2032-2036	3,770,502	2037-2041	2,592,220	2042-2046	1,413,938	2047-2050	282,788	
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<p>Figure 3: Proponent’s proposed GHG emissions reduction targets and trajectory</p>													
<p>Scope 2 GHG emissions</p>													
<p>There is no scope 2 GHG emissions associated with this proposal.</p>	<p>N/A.</p>												
<p>Scope 3 GHG emissions</p>													
<p>Scope 3 GHG emissions for the proposal are associated with the production and transport of natural gas and diesel fuel to the PHPS.</p>	<p>The EPA encourages the proponent to take all measures it can reasonably take to reduce scope 3 GHG emissions. While the proponents GHGEMP does not provide management measures to reduce scope 3 emissions, it is</p>												

	<p>noted that measures that reduce operational scope 1 emissions by reducing gas consumption in the PHPS will reduce scope 3 emissions.</p>
<p>Offsets</p>	
<p>The GHGEMP indicates that if offsets are required, the proponent will only use credible offsets that meet the offset integrity standards required by the EPA, and will be a combination of:</p> <ul style="list-style-type: none"> • Australian Carbon Credit Units (ACCUs) issued under the Carbon Credits (Carbon Farming Initiative) Act 2011 (Cth). • Verified Emission Reductions (VERs) issued under the Gold Standard program. • Verified Carbon Units (VCUs) issued under the Verified Carbon Standard program. • Other offset units that meet integrity principles and are based on clear, enforceable and accountable methods. 	<p>The EPA considers it highly likely that the proponent will need to use offsets to meet the required emissions reduction trajectory, even with the adoption of proposed mitigation measures such as substituting the fourth gas turbine approved as part of the PEP with additional reciprocating engine generators, using renewable hydrogen as a fuel substitute, and carbon capture.</p> <p>Given the quantity of offsets that are likely to be involved, and the regulatory regimes governing offsets, the EPA is satisfied that the offsets are likely to be reasonably available and have sufficient integrity at the time they are required.</p> <p>Requirements for suitable offsets, such as domestic offsets under the Commonwealth Carbon Credits (Carbon Farming Initiative Act) 2011, Gold Standard Program or Verified Carbon Standard Program, are recommended through condition B2-5(1).</p>
<p>Other decision-making processes, including the Commonwealth Safeguard Mechanism</p>	
<p>Commonwealth Safeguard Mechanism</p> <p>The GHGEMP indicates that under the Commonwealth <i>National Greenhouse and Energy Reporting Act 2007</i> (NGER), the proposal will form part of the 'Port Hedland Power Station' NGER Facility (PHPS NGER Facility), which includes the existing PHPS and the Boodarie Power Station. The PHPS NGER Facility is a Safeguard Facility which is captured under the Sectoral Baseline by the National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015 (Safeguard Rule) as it is a grid-connected electricity generator.</p>	<p>The EPA notes that the Commonwealth Safeguard Mechanism may require the proponent to take actions to reduce GHG emissions. However, the EPA is also aware that the PHPS NGER Facility includes both the existing PHPS and the Boodarie Power Station, therefore those actions may include some that specifically relate to the Boodarie Power Station rather than the PHPS. Further, the EPA notes the electricity sector baseline is considerably higher (198 million tonnes CO₂-e) than the</p>

The Sectoral Baseline applies collectively to the grid-connected electricity sector until the aggregated emissions of the electricity sector exceed the Sectoral Baseline of 198 million tonnes of CO₂-e. Sectoral emissions have not exceeded the sectoral baseline since the Safeguard mechanism was implemented, and in 2019-20 were 155 million tonnes of CO₂-e, which is more than 20% below the sectoral baseline. If the Sectoral Baseline is exceeded, then an individual Safeguard Mechanism baseline would apply to the PHPS NGER Facility, and the proponent would be required to offset any emissions from the facility more than that baseline. If the Sectoral Baseline is exceeded, the proponent would have a number of baseline adjustment and emissions management options available to implement (APA DEWAP 2024).

The proponent considers that any offsets surrendered to reduce the reported GHG emissions from the PHPS NGER Facility to meet a Safeguard Mechanism requirement could be counted as offsets for the purposes of meeting the proponent's proposed emissions targets in the GHGEMP.

total reported scope one emissions for sector (In 2022–23, total reported scope 1 emissions from grid-connected generators were 137.2 million tonnes CO₂-e.) (CER 2024). As such the Safeguard mechanism is unlikely to be triggered given the emissions headroom. In recognition of this, the recommended condition B2-1 includes GHG emission reduction limits that are based on GHG emissions produced in a worst-case operational scenario. to ensure consistency with the EPA's GHG objectives.

The EPA also recommends condition B2-2 requiring a GHGEMP, for consistency with other proposals and to ensure ongoing reviews of GHG emissions avoidance and mitigation actions.

However, to reduce the potential for duplication of GHG emission regulation by the Commonwealth or other State laws in the future, the EPA also recommends condition C1-1(2) be included which provides a mechanism for the CEO of the DWER to advise the proponent that the requirements of GHGEMP can be achieved by other decision making processes (e.g. Commonwealth Safeguard Mechanism).

In summary, the EPA considers that the emissions reductions, avoidance, minimisation, and offsets proposed by the proponent are generally consistent with the EPA's environmental factor objective *to minimise the risk of environmental harm associated with climate change by reducing greenhouse gas emissions as far as practicable*.

The EPA notes that the science and policy relating to GHG emissions and climate change is rapidly evolving. The EPA's recommended GHGEMP conditions are expected to be able to be responsive to this, particularly by enabling reviews and reporting of the proposal to reflect any significant changes. This may include if there are material changes to relevant State, Commonwealth, or international GHG science or reports, policy, or other mechanisms to support the achievement of net-zero GHG emissions. The EPA believes that the recommended GHG emissions condition (condition B2) will be responsive enough to take account of changes in this evolving area as well as provide the need for innovation and improvement in best practice technologies. The condition is also consistent with the EPA's GHG Emissions Guideline which is based on a continuous improvement approach to GHG emissions reduction. The EPA also notes that the Minister can direct the EPA to inquire into Ministerial Statement conditions (including GHG conditions) at any time.

3 Holistic assessment

While the EPA assessed the impacts of the proposal against the key environmental factors and environmental values individually in the key factor assessments above, given the link between air quality and greenhouse gas emissions with other factors such as flora and vegetation, terrestrial fauna, and social surroundings, the EPA also considered connections and interactions between them to inform a holistic view of impacts to the whole environment.

Air quality

The proposal's residual impact on human health and amenity from the increased NO₂ GLC at nearby sensitive receptors has been assessed as low. This assessment is based on highest predicted cumulative 1-hour average NO₂ GLC at a sensitive receptor location in the South Hedland area reaching about 72.7% of the applicable adjusted NEPM standard of 150 µg/m³ in the worst-case air quality modelling scenario (i.e. Scenario 10).

Air emissions have the potential to impact on a range of other environmental elements including, but not limited to social surroundings and flora and vegetation (plant growth and structure).

The EPA considers that the proposed mitigation and management measures, and recommended conditions for impacts to air quality will also mean the inter-related impacts to the health of other factors of the environment including the values associated with social surroundings and flora and vegetation are likely to be consistent with the EPA environmental factor objectives.

Greenhouse gas emissions

There is an established link between GHG emissions and the risk of climate change. The EPA recognises that climate change will impact on Western Australia's environment and environmental values. GHG emissions have the potential to impact on all other environmental factors through the effects of climate change.

The EPA considers that the proposed mitigation conditions to regulate GHG emissions will also mean that the impacts to other factors and values of the environment are likely to be consistent with the EPA environmental factor objectives.

4 Recommendations

The EPA has taken the following into account in its assessment of the proposal:

- environmental values which may be significantly affected by the proposal
- assessment of key environmental factors, separately and holistically (this has included considering cumulative impacts of the proposal where relevant)
- likely environmental outcomes which can be achieved with the imposition of conditions
- consistency of environmental outcomes with the EPA's objectives for the key environmental factors
- EPA's confidence in the proponent's proposed mitigation measures
- whether other statutory decision-making processes can mitigate the potential impacts of the proposal on the environment
- principles of the EP Act.

The EPA recommends that the proposal may be implemented subject to the conditions recommended in Appendix A.

5 Other advice

The EPA may, if it sees fit, include other information, advice or recommendations relevant to the environment in its assessment reports, even if that information has not been taken into account by the EPA in its assessment of a proposal. The EPA provides the following information for consideration by the Minister.

Advice on amended air quality limits

The EPA recognises that DWER has a long history of managing potential environmental impacts associated with the operation of industrial facilities in the Port Hedland area. This is achieved through the regulation of emissions and discharges associated with activities that are prescribed under Part V of the EP Act. The EPA notes that the following emissions and discharges from the PHPS are currently regulated via limits in Licence L7336/1998/10 under Prescribed Premises Category 52: Electric power generation:

- NO_x emissions from point sources (stacks)
- discharge of wastewater to the evaporation pond.

The EPA considers that the increased NO_x emissions associated with the proposal can be adequately regulated and managed under Part V of the EP Act to meet the EPA's environmental factor objective for air quality and relevant standards. This can be accomplished by revising the existing limit for NO_x emissions from point sources in Licence L7336/1998/10 with new emissions limits for the gas turbines and the reciprocating engine generators through a risk-based review on existing premises and licences to ensure the licences are effective in controlling risks posed to public health and the environment.

Implications on Port Hedland airshed

The EPA notes that the proposal's NO_x emissions will contribute a significant portion of the accepted NO_x levels (i.e. NEPM) in the Port Hedland airshed. The EPA is aware that other large scale industrial development proposals potentially emitting significant quantities of air emissions are likely to be located within the Boodarie SIA and surrounding areas in the near future. Therefore, the PEP Expansion proposal's NO_x emissions have the potential to restrict the extent of future industrial development within the Port Hedland airshed. To promote continuous improvement and to drive reasonably practicable reductions in NO_x emissions, the EPA recommends the outcomes of the Environmental Performance Reporting are considered when granting works approvals and licences for regulation of emissions and discharges associated with activities prescribed under Part V of the EP Act.

Appendix A: Recommended conditions

Section 44(2)(b) of *Environmental Protection Act 1986* specifies that the EPA's report must set out (if it recommends that implementation be allowed) the conditions and procedures, if any, to which implementation should be subject. This appendix contains the EPA's recommended conditions and procedures.

Recommended Environmental Conditions

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED (*Environmental Protection Act 1986*)

PILBARA ENERGY PROJECT EXPANSION

Proposal: The proposal includes the expansion of the Port Hedland Power Station (PHPS) from 140 MW to 200 MW nominal total installed capacity and approximately 400 km of high-voltage power transmission line from Port Hedland to Newman.

Proponent: APA DEWAP Pty Ltd
Australian Company Number: 058 070 689

Proponent address: Level 12
141 St Georges Terrace
PERTH WA 6000

Assessment number: 2307
Report of the Environmental Protection Authority: 1770

Introduction: The Proposal is a significant amendment to the existing Pilbara Energy Project, Karratha, Port Hedland & Newman approved proposal which was agreed to be implemented under Ministerial Statement 333. The EPA's Report for the existing Pilbara Energy Project, Karratha, Port Hedland & Newman proposal is Bulletin 725, EPA Assessment Number 793.

Pursuant to section 45 of the *Environmental Protection Act 1986*, it is now agreed that:

1. the significant amendment proposal described and documented in the proponent's Proposal Content Document (11 March 2024), may be implemented;
2. Ministerial Statement 333 for the existing Pilbara Energy Project, Karratha, Port Hedland & Newman proposal is superseded under section 40AA (6) (b) of the *Environmental Protection Act 1986*; and
3. the implementation of the significantly amended proposal (being the existing approved proposal as amended by the significant amendment proposal) is subject to the following implementation conditions and procedures.

Conditions and procedures

Part A: Proposal extent

Part B: Environmental outcomes, prescriptions, and objectives

Part C: Environmental management plans and monitoring

Part D: Compliance and other conditions

PART A: PROPOSAL EXTENT

A1 Limitations and extent of proposal

A1-1 The proponent must ensure that the proposal is implemented in such a manner that the following limitations or maximum extents / capacities / ranges are not exceeded:

Proposal element	Location	Maximum extent
Physical elements		
Power station and supporting infrastructure	Within the development envelope shown in Figures 1 and 2	Disturbance of no more than 15.75 ha within a development envelope of 2,549 ha .
Transmission Line	Within the development envelope shown in Figures 1 and 2	Disturbance of not more than 450 ha within a development envelope of 2,549 ha .
Operational elements		
Power station	Within the development envelope shown in Figures 1 and 2	200 MW nominal total installed generating capacity.
Timing elements		
Project life	N/A	55 years
Construction phase		3 years
Operations phase		50 years
Decommissioning phase		2 years

Note: Operations phase is from the date of commissioning of the new 60 MW natural gas fuelled reciprocating engine generators and/or the fourth gas turbine approved via MS 333

PART B – ENVIRONMENTAL OUTCOMES, PRESCRIPTIONS AND OBJECTIVES**B1 Air quality**

B1-1 The proponent must ensure the implementation of the proposal achieves the following environmental **outcome**:

- (1) **air emissions** from the proposal to the **Port Hedland airshed** do not exceed **accepted air quality standards and criteria**.

B2 Greenhouse gas emissions

B2-1 Subject to condition B2-1(7), the proponent must take measures to ensure that **net GHG emissions** do not exceed:

- (1) 4,948,784 tonnes of **CO₂-e** for the period between 1 July 2026 and 30 June 2031;
- (2) 3,770,502 tonnes of **CO₂-e** for the period between 1 July 2031 and 30 June 2036;
- (3) 2,592,220 tonnes of **CO₂-e** for the period between 1 July 2036 and 30 June 2041;
- (4) 1,413,938 tonnes of **CO₂-e** for the period between 1 July 2041 and 30 June 2046;
- (5) 282,788 tonnes of **CO₂-e** for the period between 1 July 2046 and 30 June 2050; and in any event; and
- (6) zero tonnes of **CO₂-e** for every five (5) year period from 1 July 2050 onwards.
- (7) Where the time between the **commencement of operations** and the end of a period specified in condition B2-1(1) is less than five (5) years, the **net GHG emissions** limit for that period is to be determined in accordance with the following formula:

Reduced **net GHG emissions** limit = $(A \div 1825) \times B$

Where:

A is the **net GHG emissions** limit for the period as specified in condition B2-1.

B is the number of days between the **commencement of operations** and the end of the relevant period specified in condition B2-1.

B2-2 The proponent must implement the **Greenhouse Gas Environmental Management Plan** to:

- (1) be consistent with the achievement of the **net GHG emissions** limits in condition B2-1 subject to the adjustment provided for in condition B2-1(7)

(or achievement of emission reductions beyond those required by those emission limits);

- (2) specify the estimated **proposal GHG emissions** and **emissions intensity** for the life of the proposal;
- (3) include a comparison of the estimated **proposal GHG emissions** and **emissions intensity** for the life of the proposal against other relevant emissions reduction practices, pathways and comparable facilities;
- (4) identify and describe any measures that the proponent will implement to avoid, reduce and/or offset **proposal GHG emissions** and/or reduce the **emissions intensity** of the proposal; and
- (5) provide a program for the future review of the plan to:
 - (a) assess the effectiveness of measures referred to in condition B2-2(4);
 - (b) identify and describe options for future measures that the proponent may or could implement to avoid, reduce, and/or offset **proposal GHG emission** and/or reduce the **emissions intensity** of the proposal.

B2-3 Within twenty (20) business days of:

- (1) the date of the Statement; or
- (2) receiving confirmation in writing from the **CEO** that any subsequent version of the **confirmed Greenhouse Gas Environmental Management Plan** submitted under condition C2-2 satisfies the requirements of condition B2-2,

the proponent must submit a separate summary of the relevant plan to the **CEO**, which must:

- (3) include a summary of the matters specified in conditions B2-2(1) to condition B2-2(4); and
- (4) be published as required by condition B2-7.

B2-4 The proponent must submit an annual report to the **CEO** each year by 31 March, commencing on the first 31 March after the **commencement of operations**, or such other date within that financial year as is agreed by the **CEO** to align with other reporting requirements for **GHG**, specifying for the previous financial year:

- (1) the quantity of **proposal GHG emissions**; and
- (2) the **emissions intensity** for the proposal.

B2-5 The proponent must submit to the **CEO** by 31 March of the financial year that is five (5) years after the date of this Statement or such other date within that financial year as is agreed by the **CEO** to align with other reporting requirements for **GHG**, and every five (5) years thereafter:

- (1) a consolidated report specifying:
 - (a) for each of the preceding five financial years, the matters referred to in condition B2-4(1) and condition B2-4(2);
 - (b) for the period specified in condition B2-1 that ended on 30 June of the year before the report is due:
 - (i) the quantity of **proposal GHG emissions**;
 - (ii) the **net GHG emissions**;
 - (iii) any measures that have been implemented to avoid or reduce **proposal GHG emissions**;
 - (iv) the type, quantity, identification or serial number, and date of retirement or cancellation of any **authorised offsets** which have been retired or cancelled and which have been used to calculate the **net GHG emissions** referred to in condition B2-5(1)(b)(ii), including written evidence of such retirement or cancellation;
 - (v) the amount of **proposal GHG emissions** that have been avoided or reduced through a **Certified Improvement**, including a description of any **Certified Improvement** that caused the avoidance or reduction; and
 - (vi) a comparison of the proposal GHG emissions for the proposal against **industry best practice** for comparable facilities.
- (2) an audit and peer review report of the consolidated report required by condition B2-5(1), carried out by an independent person or independent persons with suitable technical experience dealing with the suitability of the methodology used to determine the matters set out in the consolidated report, whether the consolidated report is accurate and whether the consolidated report is supported by credible evidence.

B2-6 A consolidated report referred to in condition B2-5(1) must be accompanied by:

- (1) a revision of the **confirmed Greenhouse Gas Environmental Management Plan** required under condition B2-2 and B2-8; and

- (2) a separate summary report, for the period specified in condition B2-1 that ended on 30 June of the year before the report is due and any previous periods specified in condition B2-1, and which includes:
- (a) a graphical comparison of **net GHG emissions** with the **net GHG emissions** limits detailed in condition B2-1 (subject to the adjustment provided for in condition B2-1(7));
 - (b) proposal **emissions intensity** compared to comparable facilities;
 - (c) a summary of measures to reduce the **proposal GHG emissions** undertaken by the proponent for compliance periods detailed in condition B2-1; and
 - (d) a clear statement as to whether limits for **net GHG emissions** set out in condition B2-1 have been met, and whether future **net GHG emissions** limits are likely to be met, including a description of any reasons why those limits have not been, and/or are unlikely to be met.

B2-7 In addition to the requirements of condition C2-6 about publication of the **confirmed Greenhouse Gas Environmental Management Plan**, the proponent must make the summary of the **confirmed Greenhouse Gas Environmental Management Plan**, and all reports required by this condition B2 publicly available on the proponent's website within the timeframes specified below, or in any other manner or time specified by the **CEO**:

- (1) the summary of the **confirmed Greenhouse Gas Environmental Management Plan** within twenty (20) business days of submitting the document to the **CEO** in accordance with condition B2-3; and
- (2) the reports referred to in condition B2-4, condition B2-5, and condition B2-6 within twenty (20) business days of submitting the document to the **CEO**, and they must remain published for the life of the proposal.

B2-8 In addition to the requirements of condition C2-2, the proponent must revise and submit to the **CEO** the **confirmed Greenhouse Gas Environmental Management Plan** by the date that the first five (5) yearly consolidated report is required to be submitted under condition B2-5 and every five (5) years after that date.

B3 Aboriginal cultural heritage

B3-1 The proponent must ensure the implementation of the proposal achieves the following environmental **outcomes**:

- (1) no **disturbance** to **Aboriginal cultural heritage**, unless consent is granted to **disturb** that site under the *Aboriginal Heritage Act 1972* and

has involved reasonable steps to consult with **relevant Traditional Owners**; and

- (2) subject to reasonable health and safety requirements, no interruption of ongoing access to land utilised for traditional use or custom by **relevant Traditional Owners**.

B4 Flora and vegetation

B4-1 The proponent must ensure the implementation of the proposal achieves the following environmental **outcome**:

- (1) no direct **disturbance** of **threatened flora** species.

B5 Environmental Performance Reporting

B5-1 The proponent must submit an Environmental Performance Report to the **CEO** every three (3) years, until the **CEO** has **confirmed** in writing that submission of an Environmental Performance Report is no longer required.

B5-2 The first Environmental Performance Report must be submitted within three (3) months of the expiry of the three (3) year period commencing from the commencement of operations, or such other time as may be approved by the **CEO**.

B5-3 Each Environmental Performance Report must:

- (1) report on the **air emissions** from the proposal and their sources for the preceding three (3) year period, including:
 - (a) on-site meteorological conditions including wind speed, wind direction, air temperature, and rainfall; and
 - (b) concentrations for **air emissions** that are monitored in accordance with works approvals and/or licences issued under Part V of the *Environmental Protection Act 1986*.
- (2) include a comparison of the **air emissions** for the proposal against **industry best practice** electricity generation facilities;
- (3) include a comparison of the air pollution control technology selection and plant design for the proposal against **industry best practice** for electricity generation facilities at the time;
- (4) include a **risk assessment** of cumulative air emissions impacts within the **Port Hedland airshed** that considers air emissions from the proposal in the context of other existing and reasonably foreseeable industrial sources of air emissions to the **Port Hedland airshed**;

- (5) based on the information required in condition B5-3(1) to B5-3(4), identify and describe measures available to the proponent to minimise air emissions, including the adoption of advances in air pollution control technology and electrical power generation to ensure that these are consistent with **industry best practice** at the time, and specify:
 - (a) the timeframe within which each air pollution control measure will be implemented; and
 - (b) the method to determine the effectiveness of each air pollution control measure in minimising air emissions.
- (6) demonstrate how implementation of the proposal is achieving a progressive reduction in the proposal's contributions to cumulative emissions in the **Port Hedland airshed**, consistent with the environmental **outcome** in condition B1-1.

B5-4 Each Environmental Performance Report must be published on the proponent's website and provided to the **CEO** in electronic form suitable for on-line publication by the Department of Water and Environmental Regulation within twenty (20) business days of being provided to the **CEO**.

PART C – ENVIRONMENTAL MANAGEMENT PLANS AND MONITORING

Environmental Management Plans: Conditions Relating to Approval, Implementation, Review and Publication

C1-1 Upon being required to implement an environmental management plan under Part B, the proponent must:

- (1) implement the most recent version of the **confirmed** environmental management plan; and
- (2) continue to implement the **confirmed** environmental management plan referred to in condition C1-1(1), other than for any period which the **CEO** confirms by notice in writing that it has been demonstrated that the relevant requirements for the environmental management plan have been met or are able to be met under another statutory decision-making process, in which case the implementation of the environmental management plan is no longer required for that period.

C1-2 The proponent:

- (1) may review and revise a **confirmed** environmental management plan provided it meets the relevant requirements of that environmental management plan, including any consultation that may be required when preparing the environmental management plan;

- (2) must review and revise a **confirmed** environmental management plan and ensure it meets the relevant requirements of that environmental management plan, including any consultation that may be required when preparing the environmental management plan, as and when directed by the **CEO**;
- (3) must revise and submit to the **CEO** the **confirmed** environmental management plan if there is a material risk that the **outcomes** or **objectives** it is required to achieve will not be complied with, including but not limited to as a result of a change to the proposal.

C1-3 Despite condition C1-1, but subject to conditions C1-4 and C1-5, the proponent may implement minor revisions to an environmental management plan if the revisions will not result in new or increased **adverse impacts** to the environment or result in a risk to the achievement of the limits, outcomes or objectives which the environmental management plan is required to achieve.

C1-4 If the proponent is to implement minor revisions to an environmental management plan under condition C1-3, the proponent must provide the **CEO** with the following at least twenty (20) business days before it implements the revisions:

- (1) the revised environmental management plan clearly showing the minor revisions;
- (2) an explanation of and justification for the minor revisions; and
- (3) an explanation of why the minor revisions will not result in new or increased **adverse impacts** to the environment or result in a risk to the achievement of the limits, **outcomes** or **objectives** which the environmental management plan is required to achieve.

C1-5 The proponent must cease to implement any revisions which the **CEO** notifies the proponent (at any time) in writing may not be implemented.

C1-6 **Confirmed** environmental management plans, and any revised environmental management plans under condition C1-4(1), must be published on the proponent's website and provided to the **CEO** in electronic form suitable for on-line publication by the Department of Water and Environmental Regulation within twenty (20) business days of being implemented, or being required to be implemented (whichever is earlier).

C2 Conditions Related to Monitoring

C2-1 The proponent must undertake monitoring capable of:

- (1) substantiating whether the proposal limitations and extents in Part A are exceeded; and

- (2) detecting and substantiating whether the environmental **outcomes** identified in Part B are achieved (excluding any environmental **outcomes** in Part B where an environmental management plan is expressly required to monitor achievement of that **outcome**).

C2-2 The proponent must submit as part of the Compliance Assessment Report required by condition D2, a compliance monitoring report that:

- (1) outlines the monitoring that was undertaken during the implementation of the proposal;
- (2) identifies why the monitoring was capable of substantiating whether the proposal limitation and extents in Part A are exceeded;
- (3) for any environmental **outcomes** to which condition C2-1(2) applies, identifies why the monitoring was scientifically robust and capable of detecting whether the environmental **outcomes** in Part B are met;
- (4) outlines the results of the monitoring;
- (5) reports whether the proposal limitations and extents in Part A were exceeded and (for any environmental **outcomes** to which condition C3-1(2) applies) whether the environmental **outcomes** in Part B were achieved, based on analysis of the results of the monitoring; and
- (6) reports any actions taken by the proponent to remediate any potential non-compliance.

PART D – COMPLIANCE, TIME LIMITS, AUDITS AND OTHER CONDITIONS

D1 Non-compliance Reporting

D1-1 If the proponent becomes aware of a potential non-compliance, the proponent must:

- (1) report this to the **CEO** within seven (7) days;
- (2) implement **contingency measures**;
- (3) investigate the cause;
- (4) investigate environmental impacts;
- (5) advise rectification measures to be implemented;
- (6) advise any other measures to be implemented to ensure no further impact; and
- (7) provide a report to the **CEO** within twenty-one (21) days of being aware of the potential non-compliance, detailing the measures required in conditions D1-1(1) to D1-1(6) above.

D1-2 Failure to comply with the requirements of a condition, or with the content of an environmental management plan required under a condition, constitutes a non-compliance with these conditions, regardless of whether the **contingency measures**, rectification or other measures in condition D1-1 above have been or are being implemented.

D2 Compliance Reporting

D2-1 The proponent must provide an annual Compliance Assessment Report to the **CEO** for the purpose of determining whether the implementation conditions are being complied with.

D2-2 Unless a different date or frequency is approved by the **CEO**, the first annual Compliance Assessment Report must be submitted within fifteen (15) months of the date of this Statement, and subsequent reports must be submitted annually from that date.

D2-3 Each annual Compliance Assessment Report must be endorsed by the proponent's Chief Executive Officer, or a person approved by proponent's Chief Executive Officer to be delegated to sign on the Chief Executive Officer's behalf.

D2-4 Each annual Compliance Assessment Report must:

- (1) state whether each condition of this Statement has been complied with, including:
 - (a) exceedance of any proposal limits and extents;
 - (b) achievement of environmental **outcomes**;
 - (c) achievement of environmental **objectives**;
 - (d) requirements to implement the content of environmental management plans;
 - (e) monitoring requirements;
 - (f) implement **contingency measures**;
 - (g) requirements to implement **adaptive** management; and
 - (h) reporting requirements.
- (2) include the results of any monitoring (inclusive of any raw data) that has been required under Part C in order to demonstrate that the limits in Part A, and any **outcomes** or any **objectives** are being met;
- (3) provide evidence to substantiate statements of compliance, or details of where there has been a non-compliance;

- (4) include the corrective, remedial and preventative actions taken in response to any potential non-compliance;
- (5) be provided in a form suitable for publication on the proponent's website and online by the Department of Water and Environmental Regulation;
- (6) be prepared and published consistent with the latest version of the Compliance Assessment Plan required by condition D2-5 which the **CEO** has confirmed by notice in writing satisfies the relevant requirements of Part C and Part D.

D2-5 The proponent must prepare a Compliance Assessment Plan which is submitted to the **CEO** at least six (6) months prior to the first Compliance Assessment Report required by condition D2-2, or prior to implementation of the proposal, whichever is sooner.

D2-6 The Compliance Assessment Plan must include:

- (1) what, when, and how information will be collected and recorded to assess compliance;
- (2) the methods which will be used to assess compliance;
- (3) the methods which will be used to validate the adequacy of the compliance assessment to determine whether the implementation conditions are being complied with;
- (4) the retention of compliance assessments;
- (5) the table of contents of Compliance Assessment Reports, including audit tables; and
- (6) how and when Compliance Assessment Reports will be made publicly available, including usually being published on the proponent's website within sixty (60) days of being provided to the **CEO**.

D3 Contact Details

D3-1 The proponent must notify the **CEO** of any change of its name, physical address or postal address for the serving of notices or other correspondence within twenty-eight (28) days of such change. Where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State.

D4 Public Availability of Data

D4-1 Subject to condition D4-2, within a reasonable time period approved by the **CEO** upon the issue of this Statement and for the remainder of the life of the proposal, the proponent must make publicly available, in a manner approved by the **CEO**,

all validated environmental data collected before and after the date of this Statement relevant to the proposal (including sampling design, sampling methodologies, monitoring and other empirical data and derived information products (e.g. maps)), environmental management plans and reports relevant to the assessment of this proposal and implementation of this Statement.

D4-2 If:

- (1) any data referred to in condition D4-1 contains trade secrets; or
- (2) any data referred to in condition D4-1 contains particulars of confidential information (other than trade secrets) that has commercial value to a person that would be, or could reasonably be expected to be, destroyed or diminished if the confidential information were published,

the proponent may submit a request for approval from the **CEO** to not make this data publicly available and the **CEO** may agree to such a request if the **CEO** is satisfied that the data meets the above criteria.

D4-3 In making such a request the proponent must provide the **CEO** with an explanation and reasons why the data should not be made publicly available.

D5 Independent Audit

D5-1 The proponent must arrange for an independent audit of compliance with the conditions of this statement, including achievement of the environmental **outcomes** and/or the environmental **objectives** and/or environmental performance with the conditions of this statement, as and when directed by the **CEO**.

D5-2 The independent audit must be carried out by a person with appropriate qualifications who is nominated or approved by the **CEO** to undertake the audit under condition D5-1.

D5-3 The proponent must submit the independent audit report with the Compliance Assessment Report required by condition D2, or at any time as and when directed in writing by the **CEO**. The audit report is to be supported by credible evidence to substantiate its findings.

D5-4 The independent audit report required by condition D5-1 is to be made publicly available in the same timeframe, manner and form as a Compliance Assessment Report, or as otherwise directed by the **CEO**.

Table 1: Abbreviations and definitions

Acronym or abbreviation	Definition or term
Aboriginal cultural heritage	Means the tangible and intangible elements that are important to the Aboriginal people of the state, and are recognised through social, spiritual, historical, scientific or aesthetic values, as part of Aboriginal tradition to the extent they directly affect or are affected by physical or biological surroundings.
Acceptable air quality standards and criteria	Air quality standards and criteria as required under a works approval or licence issued under Part V of the <i>Environmental Protection Act 1986</i> , or those set out in the National Environment Protection (Ambient Air Quality) Measure or its equivalent.
Adaptive	Means having the ability or tendency to adapt in response to evidence in a manner which is most effective at achieving the specified outcomes.
Adverse impact / adversely impacted	<p>Negative change that is neither trivial nor negligible that could result in a reduction in health, diversity or abundance of the receptor/s being impacted, or a reduction in environmental value. Adverse impacts can arise from direct or indirect impacts, or other impacts from the proposal.</p> <p>In relation to flora and vegetation this includes, but is not limited to, hydrological change, spread or introduction of environmental weeds, introduction or spread of disease, changes in erosion and edge effects.</p> <p>In relation to Aboriginal cultural heritage this includes but is not limited to, hydrological change, structural damage, introduction or spread of non-indigenous flora and/or fauna, alteration of fauna behaviour, artificial light, dust, vibration, and noise emissions</p>
Air emissions	Means all pollutants released to the air as a result of the proposal that have the potential to independently or cumulatively adversely impact the chemical, physical, biological or aesthetic characteristics of the air. In reference to the proposal this includes, but is not limited to, nitrogen oxides (NO _x), sulphur oxides (SO _x) and carbon monoxide.
Authorised offsets	<p>Units representing GHG emissions issued under one of the following schemes and cancelled or retired in accordance with any rules applicable at the relevant time governing the cancellation or retiring of units of that kind:</p> <p>(a) Australian Carbon Credit Units issued under the <i>Carbon Credits (Carbon Farming Initiative) Act 2011</i> (Cth);</p>

	<p>(b) Verified Emission Reductions issued under the Gold Standard program;</p> <p>(c) Verified Carbon Units issued under the Verified Carbon Standard program; or</p> <p>(d) other offset units that the Minister has notified the proponent in writing meet integrity principles and are based on clear, enforceable and accountable methods.</p>
CEO	The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the <i>Environmental Protection Act 1986</i> , or the CEO's delegate.
Certified Improvement	<p>An improvement to technology and/or processes approved in writing by the CEO as an improvement that was or would be unlikely to occur in the ordinary implementation of the proposal (disregarding the effect of these conditions), and which is the subject of a report that:</p> <p>(a) describes the improvement;</p> <p>(b) demonstrates that the improvement was or would be unlikely to occur in the ordinary implementation of the proposal (disregarding the effect of these conditions); and</p> <p>(c) has been reviewed by a suitably qualified peer reviewer, who has been approved by the CEO, and who confirms that he or she agrees with the conclusions set out in the report.</p>
Commencement of operations	Means commencing operation of the proposal's reciprocating engine generator sets and/or the fourth gas turbine approved under the Pilbara Energy Project (Ministerial Statement 333), including pre-commissioning, commissioning, start-up, and normal operation.
CO₂-e	Carbon dioxide equivalent.
Confirmed	<p>In relation to a plan required to be made and submitted to the CEO, means, at the relevant time, the plan that the CEO confirmed, by notice in writing, meets the requirements of the relevant condition.</p> <p>In relation to a plan required to be implemented without the need to be first submitted to the CEO, means that plan until it is revised, and then means, at the relevant time, the plan that the CEO confirmed, by notice in writing, meets the requirements of the relevant condition.</p>
Contingency measures	Planned actions for implementation if it is identified that an environmental outcome, environmental objective , threshold criteria , or management target are likely to be, or are being, exceeded. Contingency measures include changes to operations or reductions in disturbance or adverse impacts

	to reduce impacts and must be decisive actions that will quickly bring the impact to below any relevant threshold , management target and to ensure that the environmental outcome and/or objective can be met.
Cumulative air emission impacts	Total air emission impacts from the proposal and other existing and reasonably foreseeable industrial sources within the Port Hedland airshed.
Disturb/disturbance	Means directly has or materially contributes to the disturbance effect on health, diversity or abundance of the receptor/s being impacted or on an environmental value . In relation to flora, vegetation or fauna habitat, includes to result in death, destruction, removal, severing or doing substantial damage to. In relation to Aboriginal cultural heritage , includes direct physical or biological effects on the tangible and intangible elements that are important to Aboriginal people, and are recognised through social, spiritual, historical, scientific or aesthetic values, as part of Aboriginal tradition.
Emissions Intensity	Proposal GHG emissions per megawatt hour (MWh) of electricity produced.
Environmental value	A beneficial use, or ecosystem health condition.
GHG emissions	Greenhouse gas emissions expressed in tonnes of carbon dioxide equivalent (CO₂-e) as calculated in accordance with the definition of 'carbon dioxide equivalence' in Section 7 of the <i>National Greenhouse and Energy Reporting Act 2007</i> (Cth), or, if that definition is amended or repealed, the meaning set out in an Act, regulation or instrument concerning greenhouse gases as specified by the Minister.
Greenhouse Gas Environmental Management Plan	APA Pilbara Energy Project Expansion Greenhouse Gas Environmental Management Plan (Version: 2 July 2024).
Greenhouse gas or GHG	Has the meaning given by Section 7A of the <i>National Greenhouse and Energy Reporting Act 2007</i> (Cth) or, if that definition is amended or repealed, the meaning set out in an Act, regulation or instrument concerning greenhouse gases as specified by the Minister.
ha	Hectare(s).
Industry best practice	A method, process, or technique employed within a particular industry that has consistently shown through research and experience results superior to those achieved by applying other means and can be used as a benchmark.
Management action(s)	The identified action implemented with the intent of to achieving the environmental objective .

Management target(s)	A type of indicator to evaluate whether an environmental objective is being achieved.
MW	Megawatt(s), unit of electricity production.
Net GHG emissions	<p>Proposal GHG emissions for a period less any reduction in GHG Emissions represented by the cancellation or retirement of authorised offsets which:</p> <ul style="list-style-type: none"> (a) were cancelled or retired between the first day of the period until 1 March in the year after the period has ended; (b) have been identified in the report for that period as required by condition B2-5(1)(b)(iv); (c) have not been identified as cancelled or retired in the report for that period as required by condition B2-5(1)(b)(iv); (d) have not been used to offset GHG emissions other than proposal GHG emissions; and (e) were not generated by avoiding proposal GHG emissions.
Objective(s)	An objective is the proposal-specific desired state for an environmental factor/s to be achieved from the implementation of management actions .
Operations / Commencement of operations	Operation of the plant infrastructure for the proposal and includes pre-commissioning, commissioning, start-up and operation of the plant infrastructure for the proposal.
Outcome(s)	A proposal-specific result to be achieved when implementing the Proposal.
Port Hedland airshed	The spatial area within the locality of Port Hedland and inclusive of the Boodarie Strategic Industrial Area, broadly delineated by the existing ambient and industry air quality monitoring network as presented on the Department of Water and Environmental Regulation's air quality monitoring network website .
Proposal GHG emissions	<p>Scope 1 GHG emissions expressed in tonnes of carbon dioxide equivalent (CO₂-e) released to the atmosphere as a direct result of an activity or series of activities that comprise/s or form/s part of the proposal, calculated in accordance with:</p> <ul style="list-style-type: none"> (a) the <i>National Greenhouse and Energy Reporting Act 2007</i> (Cth) and its subsidiary legislation; or (b) if that Act or the relevant subsidiary legislation is amended or repealed such that it does not provide a mechanism for calculating the Proposal Emissions, any other Act, regulation or instrument concerning greenhouse gases as specified by the CEO.

Relevant Traditional Owner	In relation to the land subject to the proposal, means one or more of the following: <ul style="list-style-type: none"> - a registered native title body corporate for the land; - a registered native title claimant for the land; or - a group of persons with Aboriginal traditional and cultural associations with the land.
Risk assessment	A risk assessment conducted in accordance with the framework set out in DWER's Guideline – Risk assessments (Version 3, December 2020) for Part V, Division 3 of the <i>Environmental Protection Act 1986</i> , or any subsequent revisions.
Threatened flora	Has the meaning given by the <i>Biodiversity Conservation Act 2016</i> (BC Act), which is, flora that belongs to a threatened species. Where, a threatened species means a native species that: <p>(a) is listed as a threatened species under section 19(1) of the BC Act; or</p> <p>(b) is to be regarded as a threatened species under section 26(2) of the BC Act;</p>
Threshold criteria	The indicators that have been selected to represent limits of impact beyond which the environmental outcome is not being met.
Trigger criteria	Indicators that have been selected for monitoring to provide a warning that, if exceeded, the environmental outcome may not be achieved. They are intended to forewarn of the approach of the threshold criteria and trigger response actions.

Figures (attached)

Figure 1 Project location, development envelope, and disturbance footprint (This figure is a representation of the co-ordinates referenced in Schedule 1).

Figure 2 Power station and transmission line development envelope and disturbance footprint (This figure is a representation of the co-ordinates referenced in Schedule 1).

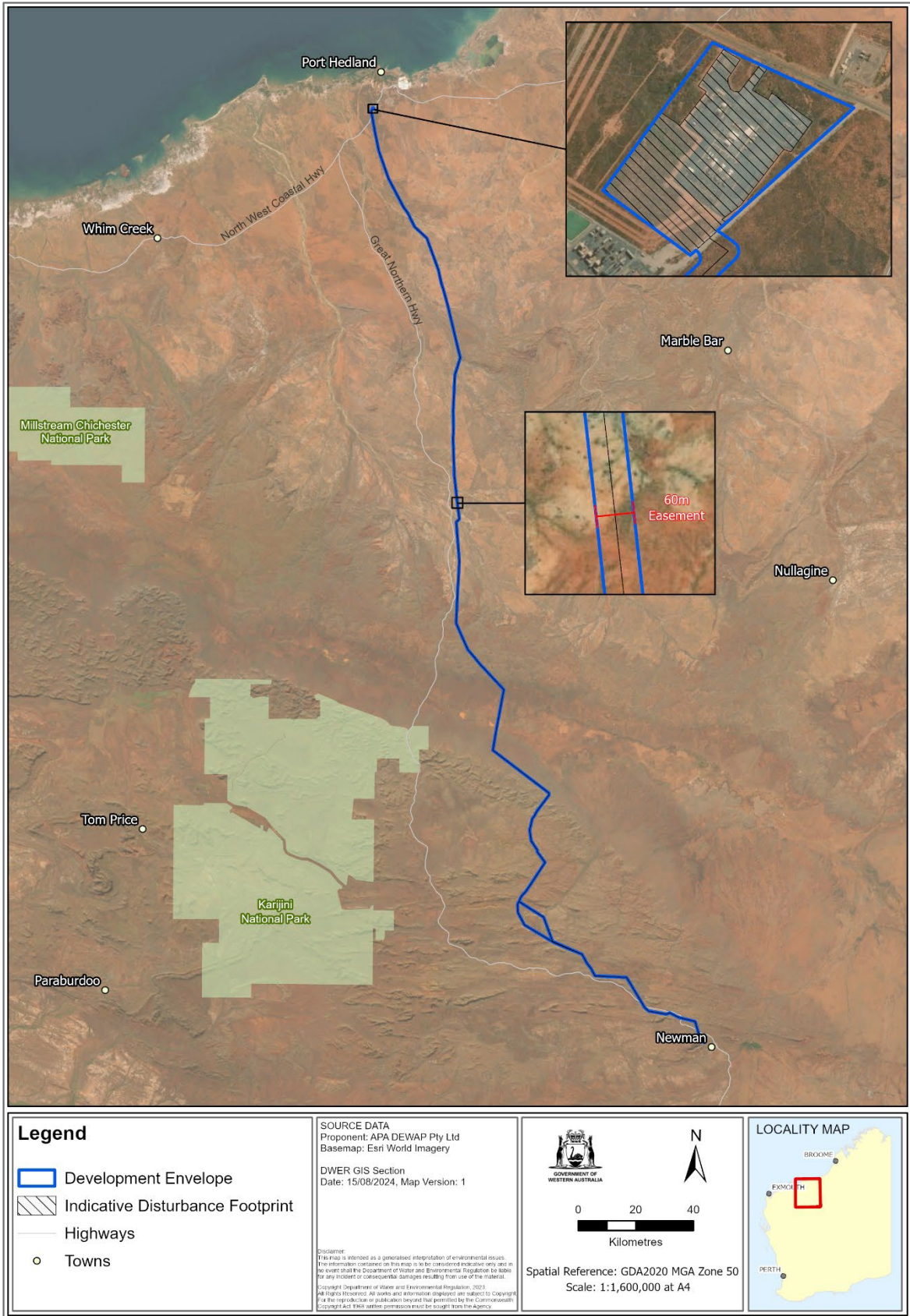


Figure 1: Project location, development envelope, and indicative disturbance footprint.



Path: S:\Projects\EA\1638\2020_DWERDT346024_PortHedlandPowerStationExpansion\3_Assessment\ArcGIS_Pro\2020_DWERDT346024_PortHedlandPowerStationExpansion\2020_DWERDT346024_PortHedlandPowerStationExpansion.aprx

Figure 2: Development envelope and indicative disturbance footprint at the power station and start of transmission line.

Schedule 1

All co-ordinates are in metres, listed in Map Grid of Australia Zone 50 (MGA Zone 50), datum of Geocentric Datum of Australia 2020 (GDA 2020).

Spatial data depicting the figures are held by the Department of Water and Environmental Regulation. Record No. DWER-801164602-336328.

Appendix B: Regulation by other DMA processes

Table B1: Identified Statutory decision-making processes relevant for the proposal.

Statutory decision-making process	Environmental outcome
<i>Environmental Protection Act 1986</i> – part V works approval and licence	Regulate emissions and discharges from construction and operations to achieve the following outcomes: <ul style="list-style-type: none"> - No adverse impacts to health and amenity from air emissions and dust - No soil contamination from hydrocarbons.
<i>Electricity Industry Act 2004</i> – Electricity Integrated Regional Licence	Licencing of the generation, transmission, distribution or sale of electricity.
<i>Dangerous Goods Safety Act 2004</i> – Dangerous goods Site Licence	Regulation and licencing of the safe storage, handling, and transport of dangerous goods.
<i>Planning and Development Act 2005</i>	Assessment of the proposal by the Region Joint Development Assessment Panel (regional JDAP), and the administration of the development application by the Town of Port Hedland (as an administrative authority following Regional JDAP assessment).

Appendix C: Decision-making authorities

Table C1: Identified relevant decision-making authorities for the proposal

Decision-Making Authority	Legislation (and approval)
1. Chief Executive Officer, Department of Water and Environmental Regulation	<i>Environmental Protection Act 1986</i> – Part V Works Approval and Licence
2. Chief Dangerous Goods Officer, Department of Energy Mines, Industry Regulation and Safety	<i>Dangerous Goods Safety Act 2004</i> – Storage and handling of dangerous goods
3. Chair, Economic Regulation Authority	<i>Electricity Industry Act 2004</i> – Electricity Integrated Regional Licence
4. Presiding Member, Regional Joint Development Assessment Panel	<i>Planning and Development Act 2005</i> – Planning approval
5. Chief Executive Officer, Town of Port Hedland	<i>Planning and Development Act 2005</i> – Planning approval

Appendix D: Environmental Protection Act principles

Table D1: Consideration of principles of the *Environmental Protection Act 1986*

EP Act principle	Consideration
<p>1. The precautionary principle</p> <p><i>Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.</i></p> <p><i>In application of this precautionary principle, decisions should be guided by –</i></p> <p>(a) <i>careful evaluation to avoid, where practicable, serious or irreversible damage to the environment; and</i></p> <p>(b) <i>an assessment of the risk-weighted consequences of various options.</i></p>	<p>The EPA has considered the precautionary principle in its assessment and has had particular regard to this principle in its assessment of air quality and greenhouse gas emissions.</p> <p>Air quality</p> <p>The EPA has considered the cumulative impact of the proposal's additional air emissions on air quality at nearby sensitive receptors and the surrounding airshed. The EPA has recommended conditions requiring an air quality outcome and environmental performance reporting to be implemented every three years to ensure continuous improvement and progressive reduction in NO_x emissions.</p> <p>Greenhouse gas emissions</p> <p>The EPA notes that climate change as a result of cumulative GHG emissions has the potential to cause serious damage to WA's environment. The specific impacts of any single proposal's GHG emissions are not able to be known with certainty at this time. However, the EPA has not used this as a reason for postponing assessment of the proposal's contribution to the State's GHG emissions or recommending practicable conditions to reduce emissions in order to minimise the risk of environmental harm associated with climate change.</p> <p>The objective of the revised GHGEMP for the proposal is to avoid, reduce or mitigate 100% of scope 1 GHG emissions from the proposal by 2050. Consistent with this the EPA has recommended conditions to ensure the achievement and reporting of net zero GHG emissions limits.</p> <p>The EPA has also considered previous ministerial conditions and commitments in MS 333, and if still relevant, has replaced them with contemporary conditions, otherwise they have been deleted (see Appendix I). For example, Condition B3 replaces commitment 7 and 11 of MS 333 to ensure the EPA's objective for social surroundings continues to be met for the construction of the Port Hedland to Newman power transmission line.</p>
<p>2. The principle of intergenerational equity</p> <p><i>The present generation should ensure that the health, diversity and productivity of the environment is maintained and enhanced for the benefit of future generations.</i></p>	<p>The EPA has had particular regard to the principle of intergenerational equity in its assessment of GHG emissions. The EPA considers consistency with this principle could be achieved with the implementation of its recommended conditions on GHG emissions.</p> <p><u>Greenhouse gas emissions</u></p> <p>The EPA has noted that GHG emissions pose a risk to future generations via climate change. However, the EPA also notes that the proponent has committed to following a linear trajectory to net-zero GHG emissions by 2051 and to use offsets should the relevant targets not be met by continuous improvement. The proponent has proposed a</p>

EP Act principle	Consideration
	<p>linear trajectory of GHG emissions reductions to net-zero by 2050. The EPA has recommended conditions to ensure that this outcome will be met.</p> <p>The EPA has also considered the previous ministerial conditions and commitments of MS 333, and if still relevant, have replaced them with contemporary conditions, otherwise they have been deleted to ensure principle of intergenerational equity is maintained (see Appendix I)</p>
<p>3. The principles of the conservation of biological diversity and ecological integrity</p> <p><i>Conservation of biological diversity and ecological integrity should be a fundamental consideration.</i></p>	<p>The EPA has had particular regard to the principle of conservation of biological diversity and ecological integrity in its assessment of air quality, greenhouse gas emissions and other factors. The proposal does not require the clearing of vegetation and fauna habitat, and the proposal occurs on an already disturbed site. The clearing associated with the yet to be built Port Hedland to Newman Transmission Line was approved via the approval of the PEP in MS 333.</p> <p>The EPA has considered the previous ministerial conditions and commitments of MS 333, and if still relevant, have replaced them with contemporary conditions, otherwise they have been deleted (see Appendix I). The EPA recommends outcome-based condition B4 be carried over replacing commitment 12 of MS 333 to ensure transmission line construction activities which are yet to be undertaken, continue to meet the EPA's objective for Flora and Vegetation. In addition, the EPA has considered the emission reductions proposed for GHG emissions and how this may impact biodiversity holistically.</p> <p>The EPA has concluded that given the nature of the impacts, the proposal is not likely to reduce the extent of any biological or ecological values with the area to a significant degree. The EPA is satisfied that the proposal is not likely to be inconsistent with the EPA objectives and is consistent with the principles of the conservation of biological diversity and ecological integrity.</p>
<p>4. Principles relating to improved valuation, pricing and incentive mechanisms</p> <p>(1) <i>Environmental factors should be included in the valuation of assets and services.</i></p> <p>(2) <i>The polluter pays principle – those who generate pollution and waste should bear the cost of containment, avoidance or abatement.</i></p> <p>(3) <i>The users of goods and services should pay prices based on the full life cycle costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any wastes.</i></p> <p>(4) <i>Environmental goals, having been established, should be pursued in the most cost-effective way, by establishing incentive structures, including</i></p>	<p>In considering this principle, the EPA notes that the proponent will bear the costs relating to implementing the proposal to achieve environmental outcomes, and management and monitoring of environmental impacts during construction, operation and decommissioning of the proposal. The EPA has had particular regard to this principle in considering the factors of air quality and greenhouse gas emissions.</p> <p>Air quality</p> <p>The proponent will be responsible for bearing the costs of implementing measures to minimise air emissions, including the costs of adopting advances in air pollution control technology and other measures in the future to further reduce air emissions. The EPA has recommended condition B5 (three yearly environmental performance reporting) to encourage continuous improvement in the reduction of air emissions to the Port Hedland airshed, including a cumulative air emissions impact assessment to assess the risk to the Port Hedland airshed from the proposal and any new air emission sources within the Port Hedland airshed.</p> <p>Greenhouse gas emissions</p> <p>The proponent will be responsible for bearing the costs of implementing measures to reduce and offset GHG emissions, including the costs of adopting advances in power generation and other measures in the future to further reduce and offset GHG emissions to achieve net zero along a linear trajectory to net-zero by 2050.</p>

EP Act principle	Consideration
<p><i>market mechanisms, which enable those best placed to maximise benefits and/or minimise costs to develop their own solutions and responses to environmental problems.</i></p>	
<p>5. The principle of waste minimisation <i>All reasonable and practicable measures should be taken to minimise the generation of waste and its discharge into the environment.</i></p>	<p>The EPA has considered the principle of waste minimisation in its assessment and has had particular regard to this principle in its assessment of air quality and GHG emissions.</p> <p><u>Air quality and greenhouse gas emissions</u></p> <p>The EPA notes the proponent is proposing to minimise the discharge of air emissions and GHG emissions into the environment by using thermally efficient reciprocating engine generator sets which produce less NO_x emissions and GHG emissions than the existing gas turbines to generate the additional 60 MW of power. The EPA has recommended conditions requiring an air quality environmental outcome and air quality environmental performance reporting to be implemented, which is reviewed every three years to ensure continuous improvement and progressive reduction in NO_x emissions.</p> <p>The EPA has considered previous ministerial conditions and commitments in MS 333, and if still relevant, have replaced them with contemporary conditions where appropriate or they have been deleted (see Appendix I).</p>

Appendix E: Other environmental factors

Table E1: Evaluation of other environmental factors

Environmental factor	Description of the proposal's likely impacts on the environmental factor	Government agency and public comments	Evaluation of why the factor is not a key environmental factor
Land			
Flora and vegetation	The installation of the additional proposed power generating infrastructure within the existing PHPS site will not require any additional clearing of vegetation to be undertaken.	No comments received.	The installation of the proposed power generating infrastructure within the existing PHPS site will not require any additional vegetation clearing. The clearing required for the yet to be built Port Hedland to Newman Transmission Line was approved as part of the PEP. Allowable disturbance areas for the PHPS and the Port Hedland to Newman Transmission Line (recommended condition A1) and also environmental outcome (recommended condition B4) in relation to threatened flora species will be included in the new statement which will replace MS 333. Therefore, the EPA did not consider flora and vegetation to be a key environmental factor at the conclusion of its assessment.
Terrestrial fauna	The installation of the additional proposed power generating infrastructure within the existing PHPS site will not require any additional clearing of fauna habitat to be undertaken.	No comments received.	The installation of the proposed power generating infrastructure within the existing PHPS site will not require any additional clearing of fauna habitat to be undertaken. The clearing required for the yet to be built Port Hedland to Newman Transmission Line was approved as part of the PEP. Allowable disturbance areas (recommended condition A1) for the PHPS and the Port Hedland to Newman Transmission Line will be included in the new statement which will replace MS 333. Therefore, the EPA did not consider terrestrial fauna to be a key environmental factor at the conclusion of its assessment.
Landforms	The proposal will not impact on landforms.	No comments received.	Given that the proposal will not have a significant impact on landforms and no public comments were received, the EPA did not consider landforms to be a key environmental factor at the conclusion of its assessment.
Terrestrial environmental quality	The proposal will not impact on terrestrial environmental quality.	No comments received.	Given that the proposal will not have a significant impact on terrestrial environmental quality and no public comments were received, the EPA did not consider terrestrial environmental quality to be a key environmental factor at the conclusion of its assessment.
Water			
Inland waters	The proposal will not impact on inland waters as surface water and groundwater hydrology will not be affected.	No comments received.	Given that the proposal will not have a significant impact on inland waters and no public comments were received, the EPA did not

Environmental factor	Description of the proposal's likely impacts on the environmental factor	Government agency and public comments	Evaluation of why the factor is not a key environmental factor
			consider inland waters to be a key environmental factor at the conclusion of its assessment.
People			
Social surroundings	The installation of the proposed power generating infrastructure will be undertaken within the previously disturbed PHPS site and has the potential to produce additional noise and dust. The proposal's additional GHG emissions have the potential to contribute to climate change, and consequently to impact on social surroundings.	No comments received.	The installation of the proposed power generating infrastructure will be undertaken within the previously disturbed PHPS site. The potential impact on social surroundings from the effects of climate change resulting from the proposal's additional GHG emissions have been assessed by the EPA under the GHG factor. The clearing required for the yet to be built Port Hedland to Newman Transmission Line was approved as part of the PEP. The allowable disturbance area (recommended condition A1) for the Port Hedland to Newman Transmission Line will be included in the new statement which will replace MS 333, as well as an environmental outcome (recommended condition B3) in relation to Aboriginal cultural heritage. Impacts from noise and fugitive dust emissions during construction will only be temporary in nature and are not expected to be significant as there are no sensitive receptors located nearby. Therefore, the EPA did not consider social surroundings to be a key environmental factor at the conclusion of its assessment.
Human health	Air emissions produced by the proposal have the potential to impact on human health.	<u>Public comments</u> <ul style="list-style-type: none"> • LNG production and use produces acid emissions of SO_x and NO_x etc, and these can cause human health problems. This must be avoided. 	The EPA has assessed potential impacts on human health from the proposal's air emissions under the air quality factor. Therefore, the EPA did not consider human health to be a key environmental factor at the conclusion of its assessment.

Appendix F: Relevant policy, guidance, procedures and references

APA DEWAP 2024, *Pilbara Energy Project Expansion Greenhouse Gas Environmental Management Plan*, APA DEWAP Pty Ltd, Version: 2 July 2024.

Blueprint 2021, *Port Hedland Power Station Section 38 Referral Supporting Document*, Prepared for Alinta Energy by Blueprint Environmental Strategies Pty Ltd, 10 June 2021.

Clean Energy Regulator (CER) (2023), *NGERs Emissions and Energy Threshold Calculator*, Available via: <https://www.cleanenergyregulator.gov.au/NGER/Forms-and-resources/Calculators#Emissions-and-Energy-Threshold-Calculator-and-user-guide-202223>.

Clean Energy Regulator (CER) (2024), *Electricity sector emissions and generation data 2022–23*, Available via: [Electricity sector emissions and generation data 2022–23 | Clean Energy Regulator \(cer.gov.au\)](#).

Commonwealth of Australia 2023a, *State and territory greenhouse gas inventories: 2020 emissions*, downloaded from: [State and territory greenhouse gas inventories: 2020 emissions - DCCEEW](#) on 31 July 2023.

Commonwealth of Australia 2023b, *Quarterly update of Australia's National Greenhouse Gas Inventory: December 2022*, Downloaded from: [Quarterly Update of Australia's National Greenhouse Gas Inventory: December 2022 \(dcceew.gov.au\)](#) on 31 August 2023.

Dames & Moore 1993, *Pilbara Energy Project Consultative Environmental Review*, prepared by Dames & Moore on behalf of Pilbara Energy Limited, August 1993.

DWER 2023, *Email from Alinta DEWAP Pty Ltd to EPA Services of the Department of Water and Environmental Regulation regarding requested additional air quality information*, 30 August 2023, (Doc Ref: DWER-801164602-334787).

DWER 2024, *Email from Preston Consulting to EPA Services of the Department of Water and Environmental Regulation regarding the provision of requested additional information*, 14 May 2024, (Doc Ref: DWER-801164602-334773).

Energetics 2024, *Pilbara Energy Project Expansion greenhouse gas environmental management plan – Expert review*, Version 4, 29 April 2024, prepared by Energetic Pty Ltd for APA DEWAP Pty Ltd.

EPA 1993, *Pilbara Energy Project, Karratha, Port Hedland & Newman*, EPA Bulletin 725, Environmental Protection Authority, Perth, WA, 9 December 1993.

EPA 1994, *Letter from the EPA to Pilbara Energy Limited advising that the requirements of Condition 4 in MS 333 have been met*, 1 September 1994, (Doc Ref: DWERDT526255).

EPA 2020, *Environmental factor guideline – Air quality*, Environmental Protection Authority, Perth, WA.

EPA 2021a, *Environmental impact assessment (Part IV Divisions 1 and 2) procedures manual*, Environmental Protection Authority, Perth, WA.

EPA 2021, *Environmental impact assessment (Part IV Divisions 1 and 2) administrative procedures (State of Western Australia 2021)*, Environmental Protection Authority, Perth, WA.

EPA 2021b, *Statement of environmental principles, factors, objectives and aims of EIA*, Environmental Protection Authority, Perth, WA.

EPA 2023, *Environmental factor guideline – Greenhouse gas emissions*, Environmental Protection Authority, Perth, WA.

IPCC 2023, *Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, [Core Writing Team, H. Lee and J. Romero (eds.)], IPCC, Geneva, Switzerland, pp. 1-34, doi: 10.59327/IPCC/AR6-9789291691647.001.

Northstar 2024a, *Port Hedland Power Station Expansion Addendum Air Quality Impact Assessment*, prepared by Northstar Air Quality Pty Ltd on behalf of APA Group, 27 March 2024.

Northstar 2024b, *Port Hedland Power Station Expansion – Emissions Estimation Data (confidential)*, prepared by Northstar Air Quality Pty Ltd on behalf of APA Group, 27 March 2024.

State of Western Australia 2021, *Western Australia Government Gazette, No. 180, Environmental Impact Assessment (Part IV Divisions 1 and 2) Administrative Procedures 2021*, 22 October 2021.

Transport Authorities Greenhouse Group Australia and New Zealand (TAGG) (2013), *Greenhouse Gas Assessment Workbook for Road Projects*, Available via: <https://www.mainroads.wa.gov.au/globalassets/technical-commercial/technical-library/road-and-traffic-engineering/climate-change/carbon-gauge-workbook-2013.pdf>.

Appendix G: List of submitters

7-day comment period on referral

Public

- Three separate submissions from different members of the public were received.

Appendix H: Assessment timeline

Date	Progress stages	Time (weeks)
13/09/2021	EPA decided to assess – level of assessment set	
14/06/2022	EPA requested additional information	39
14/05/2024	EPA received additional information	100
3/07/2024	EPA received final information for assessment	7
18/07/2024	EPA completed its assessment	2
23/09/2024	EPA provided report to the Minister for Environment	10
1/11/2024	EPA report published	3 days
22/11/2024	Appeals period closed	3

Timelines for an assessment may vary according to the complexity of the proposal and are usually agreed with the proponent soon after the EPA decides to assess the proposal and records the level of assessment.

In this case, the EPA did not meet its timeline objective to complete its assessment and provide a report to the Minister.

Appendix I: Contemporising of Ministerial Statement 333

Table I1: Comparison and contemporising of Ministerial Statement 333 conditions

Ministerial Condition	Environmental factor	Proposed changes	Assessment and evaluation of proposed changes: will the change ensure the combined proposal can be implemented consistently with EPA objectives
1. Proponent Commitments	N/A	Delete condition and replace with consolidated contemporary style condition	<p>Recommended conditions and procedures of Part A: Proposal extent, Part B: Environmental outcomes, prescriptions and objectives, Part C: Environmental management plans and monitoring, and Part D: Compliance and other conditions.</p> <p>EPA recommends that condition 1 is replaced with contemporary condition setting approach which if implemented, will ensure the implementation of the proposal is consistent with EPA objectives.</p>
2. Implementation	N/A	Delete condition and replace with consolidated contemporary style condition	<p>Recommended condition A1.</p> <p>EPA recommends that condition 2 is replaced with a new condition, setting the maximum limits on proposal characteristics which will ensure the implementation of the proposal is consistent with EPA objectives. This condition reflects a contemporary condition setting approach recommended by the EPA</p>
3. Proponent	N/A	Include updated proponent information	<p>Include new details of the approved proponent, as outlined above following EPA approval of Alinta DEWAP Pty Ltd as the proponent of MS 333 on 7 May 2023 and the change of name for Alinta DEWAP Pty Ltd to APA DEWAP Pty Ltd.</p>
4. Works Approval and Licence	Air Quality	Delete condition	<p>This condition required the proponent to apply for a Works Approval and a Licence following acceptance of MS 333. On 1 September 1994, the EPA advised the proponent that the requirements of Condition 4 had been met (EPA 1994). The PHPS currently operates under a Part V of the EP Act (Licence L7336/1998/10). Further, the EPA has recommended that this licence be amended to reflect the changes associated with the proposal's significant amendment.</p>

5. Time Limit on Approval	N/A	Delete condition and replace with consolidated contemporary style condition	Recommend Condition D4. EPA recommends that condition 5 is replaced with a new condition setting the maximum limits on proposal characteristics which will ensure the implementation of the proposal is consistent with EPA objectives. This condition reflects a contemporary condition setting approach recommended by the EPA.
Generic Commitments in MS 333			
1. Limits of Construction	N/A	Delete commitment and replace with consolidated contemporary style condition	Recommended condition A1. EPA recommends that commitment 1 is replaced with a new condition setting the maximum limits on proposal characteristics which will ensure the implementation of the proposal is consistent with EPA objectives. This condition reflects a contemporary condition setting approach recommended by the EPA.
2. Personnel Instruction	N/A	Delete commitment and replace with consolidated contemporary style condition	Recommend condition Part A – Part D EPA recommends that commitment 2 is replaced with contemporary condition setting approach recommended by the EPA which will ensure the implementation of the proposal is consistent with EPA objectives.
3. Complaint Resolution	N/A	Delete commitment and replace with consolidated contemporary style condition	Recommend condition Part A – Part D EPA recommends that commitment 3 is replaced with contemporary condition setting approach recommended by the EPA which will ensure the implementation of the proposal is consistent with EPA objectives.
4. Fire Suppression	N/A	Delete commitment	EPA recommends that commitment 4 is deleted as the <i>Bush Fires Act 1954</i> regulates the activities which can conducted in Bush fire prone areas, and the <i>Work Health and Safety Act 2020</i> also regulates the occupational health and safety requirements for work personnel.
5. Restoration	N/A	Delete Commitment	EPA recommends that commitment 5 is deleted as this commitment does not relate to the mitigation of impacts to the environment.

6. Construction Activities		Delete Commitment	EPA recommends that commitment 6 is deleted as the <i>Work Health and Safety Act 2020</i> appropriately regulates the occupational health and safety requirements for work personnel and the public which may be exposed to construction or operational activities.
7. Archaeology /Ethnography Survey	Social Surroundings	Delete commitment and replace with consolidated contemporary style condition	Recommend condition B3 Impacts to Aboriginal heritage at the PHPS site are unlikely as the proponent reported no registered sites within the PHPS site. However, the transmission line from Port Hedland to Newman has not yet been constructed and the EPA recommends commitment 7 is replaced with a new condition B3. This will ensure the implementation of the proposal is consistent with EPA's objective for Social Surroundings especially for the power transmission infrastructure development envelope. This condition reflects a contemporary condition setting approach recommended by the EPA.
8. Rehabilitation	Flora and Vegetation	Delete commitment	EPA recommends that commitment 8 is deleted given the rehabilitation requirements in the original assessment (Report 725) related to the gas pipeline infrastructure approved under MS 333. This element has been removed from the proposal under s. 43A of the EP Act on 17 June 2024 as it is no longer a component of the current proposal.
9. Waste Disposal	Flora and Vegetation; Terrestrial Fauna; Terrestrial Environmental Quality	Delete Commitment	EPA recommends that commitment 9 is deleted given proponents' licence under Part V of the EP Act requires them to adhere to both the Environmental Protection (Unauthorised Discharges) Regulations 2004 and Environmental Protection (Controlled Waste) Regulations 2004.
10. Access	N/A	Delete commitment as superseded by consolidated contemporary style condition	Recommended condition A1. EPA recommends that commitment 10 is deleted as the new condition setting the maximum limits on proposal characteristics which will ensure the implementation of the proposal is consistent with EPA objectives. This condition reflects a contemporary condition setting approach recommended by the EPA.

11. New Access Alignments	N/A	Delete commitment as superseded by consolidated contemporary style condition	Recommended condition A1 and B3. EPA recommends that commitment 11 is deleted as the new condition setting the maximum limits on proposal characteristics and Condition B3 which will ensure the implementation of the proposal is consistent with EPA objectives.
12. Transmission Line Tower Locations	N/A	Delete commitment and replace with a contemporary style condition	Recommended condition B4. EPA recommends that commitment 12 is replaced with a new condition B4. Impacts to rare flora at the PHPS site are unlikely as the PHPS site is an existing cleared site. However, the transmission line from Port Hedland to Newman has not yet been constructed. Recommend condition B4 will ensure the implementation of the proposal is consistent with EPA's objective for flora and vegetation during the construction of the power transmission infrastructure.
13. Road Crossings	N/A	Delete commitment	EPA recommends that commitment 13 is deleted as this commitment does not relate to the mitigation of environmental impacts.
14. Camp sites	N/A	Delete commitment as superseded by consolidated contemporary style condition	Recommended condition A1. EPA recommends that commitment 14 is deleted as the new condition setting the maximum limits on proposal characteristics which will ensure the implementation of the proposal is consistent with EPA objectives. Additionally, proponents' licence under Part V of the EP Act requires them to adhere to both the Environmental Protection (Unauthorised Discharges) Regulations 2004 and Environmental Protection (Controlled Waste) Regulations 2004.
15. Environmental Management Plan	N/A	Delete commitment	This commitment relates to the environmental management of the project and discusses site specific treatments. The requirements of this commitment can be met via EPA's contemporary conditions Part A to Part D.
Specific Commitments in MS 333			
16. Pipeline Clearing	Flora and Vegetation	Delete commitment	EPA recommends that commitment 16 is deleted given the gas pipeline infrastructure approved under MS 333 is no longer a component of the current proposal. This element has been removed from the proposal under s. 43A of the EP Act and approved by the EPA on 17 June 2024.

17. Pipeline Vegetation	Flora and Vegetation	Delete commitment	EPA recommends that commitment 17 is deleted given the gas pipeline infrastructure approved under MS 333 is no longer a component of the current proposal. This element has been removed from the proposal under s. 43A of the EP Act and approved by the EPA on 17 June 2024.
18. Pipeline Fauna	Terrestrial Fauna	Delete commitment	EPA recommends that commitment 18 is deleted given the gas pipeline infrastructure approved under MS 333 is no longer a component of the current proposal. This element has been removed from the proposal under s. 43A of the EP Act and approved by the EPA on 17 June 2024.
19. Firearms	N/A	Delete commitment	EPA recommends that commitment 19 is deleted as this commitment does not relate to the mitigation of impacts to the environment and is appropriately regulated by the <i>Fire Arms Act 1973</i> .
20. Barrier Effects	Terrestrial Fauna	Delete commitment	EPA recommends that commitment 20 is deleted given the gas pipeline infrastructure approved under MS 333 is no longer a component of the current proposal. This element has been removed from the proposal under s. 43A of the EP Act and approved by the EPA on 17 June 2024.
21. Borrow Pits	Terrestrial Environmental Quality; Flora and Vegetation; Landforms	Delete commitment	EPA recommends that commitment 21 is deleted given the gas pipeline infrastructure approved under MS 333 is no longer a component of the current proposal. Report 725 recommended the commitment for materials needed as part of the pipeline construction. This element has been removed from the proposal under s. 43A of the EP Act and approved by the EPA on 17 June 2024.
22. Dust and Noise	Air Quality; Human Health	Delete commitment and replace with consolidated contemporary style condition	Recommended condition B1 and B5. EPA recommends that commitment 22 is replaced with a new environmental outcome-based condition, and environmental performance reporting condition will ensure the implementation of the proposal is consistent with EPA objectives. Additionally, proponents' licence under Part V of the EP Act requires them to adhere to both the Environmental Protection (Unauthorised Discharges) Regulations 2004 and Environmental Protection (Noise) Regulations 1997.
23. Pipeline River Crossings	Inland Waters;	Delete commitment	EPA recommends that commitment 23 is deleted given the gas pipeline infrastructure approved under MS 333 is no longer a component of the current

	Terrestrial Environmental Quality; Flora and Vegetation; Landforms		proposal. This element has been removed from the proposal under s. 43A of the EPA Act and approved by the EPA on 17 June 2024.
24. Test Water	Inland Waters; Terrestrial Environmental Quality	Delete commitment	EPA recommends that commitment 24 is deleted given the gas pipeline infrastructure approved under MS 333 is no longer a component of the current proposal. This element has been removed from the proposal under s. 43A of the EP Act and approved by the EPA on 17 June 2024.
25. Power Station Clearing	Flora and Vegetation	Delete commitment as superseded by consolidated contemporary style condition	Recommended condition A1. EPA recommends that commitment 25 is deleted as the new condition setting the maximum limits on proposal characteristics which will ensure the implementation of the proposal is consistent with EPA objectives.
26. Air Quality Monitoring	Air Quality; Human Health	Delete commitment and replace with consolidated contemporary style condition	Recommended condition B1 and B5. EPA recommends that commitment 26 is replaced with a new environmental outcome condition and environmental performance reporting condition to ensure the implementation of the proposal is consistent with EPA objectives. Additionally, proponents' licence under Part V of the EP Act requires them to adhere to specific licence conditions relating to air quality (e.g. NO _x emissions) and more broadly the Environmental Protection (Unauthorised Discharges) Regulations 2004.
27. Mining Tenements and Leases	N/A	Delete commitment	EPA recommends that commitment 27 is deleted as this commitment does not relate to the mitigation of impacts to the environment and is appropriately regulated by DEMIRS under the <i>Mining Act 1978</i> .
28. Pastoral Leases	N/A	Delete commitment	EPA recommends that commitment 28 is deleted as this commitment does not relate to the mitigation of impacts to the environment and is appropriately regulated by the <i>Land Administration Act 1997</i> .

29. Mulga Communities	Flora and Vegetation	Delete commitment	The EPA recommends that commitment 29 is deleted. Impacts to Mulga communities were considered during the original assessment and were mostly related to the direct disturbance from construction of the gas pipeline infrastructure (which is no longer part of this proposal) and indirect disturbance from changes to surface water flows. While the transmission line also traverses Mulga woodland, negligible direct disturbance is likely, Mulga woodland is not considered rare or threatened, and changes to surface water flows is unlikely. Further, the route of the transmission line has been designed to avoid areas of unusual topography and align as much as possible to existing roads/tracks.
30. Weed Control	Flora and Vegetation		This commitment is deleted as it mainly relates to the gas pipeline which is no longer a component of the current proposal. This element has been removed from the proposal under s. 43A of the EP Act and approved by the EPA on 17 June 2024. Introduced weed species within a power station premise may become a nuisance and fire hazard, therefore weed species are managed as part of Alinta's standard maintenance procedures (Blueprint 2021).