

Preliminary Documentation (2021/9060)

Genex Kidston Connection Project

May-2022
Genex Kidston Connection Project

Preliminary Documentation (2021/9060)

Genex Kidston Connection Project

Client: Powerlink Queensland

ABN: 82 078 849 233

Prepared by

AECOM Australia Pty Ltd

Level 5, 7 Tomlins Street, South Townsville Qld 4810, PO Box 5423, Townsville QLD 4810, Australia

T +61 7 4729 5500 www.aecom.com

ABN 20 093 846 925

May-2022

Job No.: 60577456

AECOM in Australia and New Zealand is certified to ISO9001, ISO14001 and ISO45001.

© AECOM Australia Pty Ltd (AECOM). All rights reserved.

AECOM has prepared this document for the sole use of the Client and for a specific purpose, each as expressly stated in the document. No other party should rely on this document without the prior written consent of AECOM. AECOM undertakes no duty, nor accepts any responsibility, to any third party who may rely upon or use this document. This document has been prepared based on the Client's description of its requirements and AECOM's experience, having regard to assumptions that AECOM can reasonably be expected to make in accordance with sound professional principles. AECOM may also have relied upon information provided by the Client and other third parties to prepare this document, some of which may not have been verified. Subject to the above conditions, this document may be transmitted, reproduced or disseminated only in its entirety.

Table of Contents

Glossary	ii
1.0 Introduction	1
1.1 Project Overview	1
1.2 EPBC Act Approval Context	1
1.3 Purpose and Structure of this Report	1
2.0 Description of the Action	2
2.1 Site Description Summary	2
2.1.1 Project Location	2
2.1.2 Project Tenure	2
2.1.3 Land Use	3
2.2 Transmission Line	3
2.2.1 Temporary Infrastructure	4
2.3 Switching Station	4
2.3.1 Temporary Infrastructure Requirements	5
2.4 Summary of Footprint Requirements	5
2.5 Construction Camps	5
2.6 Construction Timing	6
3.0 Habitat Assessment	6
3.1 Additional Information Requested	7
3.1.1 Species General Information	7
3.1.2 Species Specific Information	8
4.0 Impact Assessment	8
4.1 Additional Information Requested	9
4.1.1 Listed Threatened Species	9
5.0 Avoidance, Mitigation and Management Measures	13
5.1 Additional Information Requested	13
6.0 Offsets	16
6.1 Summary of Significant Residual Impacts	16
6.2 Approach to Offset Package	16
6.3 Direct Offset	17
6.4 Other Compensatory Measures (OCM) Offset	18
7.0 Ecologically Sustainable Development	19
7.1 Supporting Renewable Energy	19
7.2 Environmental Decision Making	19
8.0 Economic and Social Matters	20
8.1 Public Consultation	20
8.2 Consultation with Indigenous Stakeholders	20
8.2.1 Native Title	20
8.2.2 Consultation and Engagement	21
8.3 Social and Economic Considerations	21
9.0 Environmental Record	22
10.0 Conclusion	23

List of Appendices

Appendix A: Additional Information Required – Cross Reference Table
Appendix B: Detailed Project Description
Appendix C: Plans of Development
Appendix D: Project Location and Tenure
Appendix E: Matters of National Environmental Significance (MNES) Report
Appendix F: Environmental Management Plan
Appendix G: Direct Offset Management Strategy (OMS)
Appendix H: Other Compensatory Measures (OCM) Proposal
Appendix I: Powerlink Stakeholder Engagement Framework
Appendix J: Project Consultation Activities
Appendix K: Powerlink Environmental Policy

Glossary

Acronym	Description
LGA	Local Government Area
AECOM	AECOM Australia Pty Ltd
kv	Kilovolt
km	Kilometre
DAWE	Department of Agriculture, Water and Environment
Direct OMS	Direct Offset Management Strategy
OCM	Other Compensatory Measures
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
MNES	Matters of National Environmental Significance
Powerlink	Powerlink Queensland
the Project	Genex Kidston Connection Project
EOP	Environmental Offsets Policy
OAMP	Offset Area Management Plan
vDec	Voluntary Declaration
OAG	Offsets Assessment Guide
ESD	Ecologically Sustainable Development
ILUA	Indigenous Land use Agreement
CHMA	Cultural Heritage Management Agreement
DSDATSIP	Department of Seniors, Disability Services and Aboriginal Torres Strait Islander Partnerships
ARENA	Australian Renewable Energy Agency
NAIF	Northern Australia infrastructure Facility

1.0 Introduction

The following report has been prepared by AECOM Australia Pty Ltd (AECOM) on behalf of Powerlink Queensland (Powerlink) for the Genex Kidston Connection Project (the Project). This Report includes the Preliminary Documentation in response to the Commonwealth Department of Agriculture, Water and Environment (DAWE) request for additional information (2021/9060) for an assessment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

1.1 Project Overview

Genex Power Limited (Genex) is seeking to establish the Kidston Renewable Energy Hub, a combination of solar and pump storage hydro, power generation facility at the old Kidston mine in northwest Queensland. Queensland Electricity Transmission Corporation Limited (trading as Powerlink Queensland) has been engaged by Genex to connect this facility to its existing transmission network at Mount Fox, via a new 275 kilovolt (kV) electricity transmission infrastructure project known, as the Genex Kidston Connection Project (the Project).

Powerlink Queensland (Powerlink) is a Transmission Entity under the *Electricity Act 1994*, and owns, operates and maintains Queensland's high voltage electricity transmission network. As a Transmission Network Service Provider in the national electricity market, Powerlink's primary role is to provide a secure and reliable network to transport high voltage electricity from generators to electricity distribution networks.

The Project comprises the following components:

- a 275 kV switching station proposed in the locality of Mount Fox, Queensland (the 'Guybal Munjan switching station')
- an up to 186 kilometre (km) 275 kV single circuit transmission line between Guybal Munjan switching station at Mount Fox and the Kidston Renewable Energy Hub (the 'transmission line').

1.2 EPBC Act Approval Context

A Referral under the EPBC Act was lodged, and subsequently validated by DAWE in October 2021 (2021/9060). An Action Decision made under Section 75 and Section 87 of the EPBC Act was provided by DAWE on 3 November 2021, being a "Controlled Action" requiring assessment and a decision under the EPBC Act. It was determined that the Project may have a significant impact on the 'listed threatened species and communities' controlling provision under the EPBC Act.

The Decision on Assessment Approach determined the Project is to be assessed via Preliminary Documentation. A request for additional information for the Preliminary Documentation was provided by DAWE on 22 November 2021.

1.3 Purpose and Structure of this Report

The purpose of this Report is to respond to DAWE's Request For Additional Information. A detailed Cross Reference Table has been provided in Appendix A (Additional Information Required – Cross Reference Table) to demonstrate how this Report responds and meets the information requested by DAWE.

This report is supported by the following technical documentation provide in appendices.

- Appendix A Additional Information Required – Cross Reference Table
- Appendix B Details Project Description
- Appendix C Plans of Development
- Appendix D Project Location and Tenure
- Appendix E Matters of National Environmental Significance (MNES) Report
- Appendix F Environmental Management Plan

- Appendix G Direct Offset Management Strategy (OMS)
- Appendix H Other Compensatory Measures (OCM) Proposal
- Appendix I Powerlink Stakeholder Engagement Framework
- Appendix J Project Consultation Activities
- Appendix K Powerlink Environmental Policy

This Report, together with the technical documentation advances information as provided in the Referral (2021/9060) as the Project has progressed since lodgement.

2.0 Description of the Action

The following section is structured as follows.

- Section 2.1: Site Description Summary: including information on location and land use.
- Section 2.2: Transmission Line: providing details of the 186 kilometre (km) 275 kV single circuit transmission line between the Guybal Munjan Switching Station at Mount Fox and the Kidston Renewable Energy Hub.
- Section 2.3: Guybal Munjan Switching Station: providing details of the 275 kV switching station proposed in the locality of Mount Fox, Queensland.
- Section 2.4: Summary of Clearing Requirements: providing a summary of the proposed clearing areas for the Project construction.
- Section 2.5 Construction Timing: provides an indicative Project schedule for construction.

The following sections provide the pertinent detail on the impact locations and clearing areas for the purposes of the Preliminary Documentation. Each section refers to both the relevant development plans in Appendix C (Plans of Development) and the relevant project description section in Appendix B (Detailed Project Description). Appendix B (Detailed Project Description) is provided separately to provide further description on aspects of the development should it be required.

2.1 Site Description Summary

2.1.1 Project Location

The Project commences near Mount Fox, approximately 100 km north-west of Townsville and extends in a westerly direction for approximately 186 km to the township of Kidston (Figure 1-1 to Figure 1-5 in Appendix D). The Project intersects three individual Local Government Areas (LGA) – Hinchinbrook Shire Council, Charters Towers Regional Council and Etheridge Shire Council, as illustrated on Figure 3-1 of Appendix D. The key Project infrastructure is located as follows (Figure 1, Appendix D).

- The proposed switching station at Mount Fox is located within the Hinchinbrook Shire Council LGA. The nearest locality to the switching station is Mount Fox and the nearest population centre is Ingham (approximately 40 km north-east of Mount Fox).
- Approximately 115 km of the proposed transmission line will be located within Charters Towers Regional Council with the nearest population centre being Greenvale.
- The remainder of the Transmission Line, and the connection into the Kidston Renewable Energy Hub, is located within Etheridge Shire Council LGA with the nearest population centre being Einasleigh (approximately 40 km north of Kidston).

A number of construction activities require temporary infrastructure to be established, including lay down areas and batching plants. The location of these sites are detailed in the following sections and illustrated on Figure 2 of Appendix D.

2.1.2 Project Tenure

Appendix D (Project Location and Tenure) provides a list of property titles, tenure and local government areas subject of the Project. Land tenure traversed by the Project is predominantly leasehold which is

held by the State of Queensland and leased for specific purposes (grazing, agriculture, telecommunications etc.) for a specified period. There are also scattered freehold lots throughout the Project.

2.1.3 Land Use

The Project traverses three Local Government Areas (LGAs), with individualised Local Planning Instruments (Figure 3, Appendix D). Land use intent for rural areas area similar across the three LGAs and includes the maintenance of rural character and amenity.

The existing rural character of the area traversed by the Project for the proposed transmission line is generally typified by rural properties, with large lot sizes, one or two dwellings with supporting agricultural operational buildings, sheds or structures.

Existing built infrastructure includes a number of gravel roads and existing Ergon powerlines including Single Wire Earth Return (SWER), 66 kV and 132 kV. The rural character is also supported by dense vegetated areas, and natural features such as waterways, valleys and ridgelines. Co-location of the proposed transmission line with existing electrical infrastructure for large sections of the alignment minimises impacts on the character and amenity of the rural area.

The dominant land use within the Project area is agricultural land, characterised by pastoral or grazing properties for livestock production (predominantly beef cattle), including some areas of Class A and Class B agricultural land. The Project traverses five 'open' stock routes, all classified as minor and unused. In most instances where the Project traverses Class A or B agricultural land and stock routes, the proposed transmission line has been co-located with existing Ergon Energy 66 kV and 132 kV lines. Between Greenvale and Conjuboy, the Project is not co-located with any Ergon lines.

2.2 Transmission Line

The following section provides an overview of the 186 km 275 kV single circuit transmission line between Guybal Munjan switching station at Mount Fox and the Kidston Renewable Energy Hub. Further description of the transmission line physical design details, easement and access, construction, operational and maintenance and decommissioning is provided in Section 1.0 of Appendix B (Detailed Project Description).

The Project include 349 tower structures. Tower locations are shown in Appendix C (Plans of Development) and Figure 1 of Appendix D (Project Location and Tenure). Physical details on tower structure design and construction is provided in Section 1.0 of Appendix B (detailed Project Description).

Tower height is determined by topography, average temperatures, sensitive environmental area, clearance requirements and structure loading limits. Towers will be on average 60m in height, with the exception of two towers which hare required to be 85m height for flooding mitigation purposes.

Geotechnical assessments are undertaken prior to construction to determine the appropriate foundation type for each structure. Bored foundations are often used and alternative foundation types (i.e. mass concrete, micro-piles, mini-piles) are used in situations where ground conditions are not suitable for bored foundations. Each tower structure has a footprint of 40 x 40 m or 50 x 50 meters, with the exception of the two taller towers, which require a larger footprint for safety and constructability purposes.

The transmission line is contained to an easement. Easement width is determined by the size and type of line, and the need to maintain safe electrical clearance between the high voltage conductors and any object or structure adjacent to the line under all conditions. This includes safe electrical clearance to vegetation in and adjacent to the easement. The Project is contained within a 60 m wide easement for the entire length of the transmission line.

The amount of vegetation clearing required within the 60m wide easement is dependent on terrain, vegetation type, habitat significance, and landholder requirements. The aim is to clear vegetation sufficient to meet Powerlink Queensland's safety, reliability and operational requirements for the transmission line, whilst balancing the above factors.

The proposed clearing for the transmission line varies across the easement as a result of an extensive impact minimisation process undertaken for the Project (Section 8.1 of Appendix E). The following clearing areas are used within the easement:

- Full Width Clearing – where vegetation is required to be removed across the easement corridor (60 metres wide)
- Draw Wire Path Clearing – where vegetation is required to be removed in the centre of the corridor (21 metres wide)
- Tower pad sites – require a 40 x 40 or 50 x 50 metre pad to be cleared, with the exception of two larger tower sites which require a larger footprint for safety and constructability.

The total clearing area for the transmission line corridor is approximately 665 ha.

2.2.1 Temporary Infrastructure

The following section provides an overview of the temporary infrastructure required for the construction of the Transmission Line. Temporary infrastructure requirements for the construction of the Transmission Line include:

- Seven (7) Temporary Work Areas
- Seven (7) sites for Water Sourcing and Extraction

This temporary infrastructure has been strategically sited along the Project alignment. Siting of this temporary infrastructure was based on desktop environmental constraints, constructability requirements and safety. The clearing area requirements are proposed as the upper limit expected to be required for these temporary infrastructure sites.

The Project will require access to quarry materials during construction for access tracks, waterway crossings, erosion and sediment controls, foundations and also further access to materials for ongoing maintenance. These materials include, but are not limited to, rock, gravel, sand and soils. These materials will be source from local registered quarries and / or local landowners. No borrow pits are included within the EPBC Act approval.

The total footprint for temporary infrastructure is approximately 11 ha.

Temporary Work Areas

Temporary works area include areas for concrete batching plants and laydown areas. Access requirements have also been included. The required sites are identified on Figure 2 in Appendix D (Project Location and Tenure). All Temporary Work Areas are accessed using existing access, with the exception on Temporary Work Area 3 which required a new access.

Water Sourcing and Extraction

General construction water to be used for dust suppression, access track construction etc., will be sourced from local dams and bores in consultation with landholders. Extraction of water from local rivers and creeks will be undertaken in accordance with the requirements under the *Water Act 2000*. The construction of new water sources such as dams and bores will be done so in consultation with landholders and be subject to assessment and approval by state/local authorities.

The required sites for water sourcing are identified in Appendix D (Project Location and Tenure). All but one site requires new access requirements.

2.3 Switching Station

The following section provides an overview of the Guybal Munjan Switching Station at Mount Fox. A detailed description of the switching station physical design details, construction, operational and maintenance and decommissioning is provided in Section 2.0 of Appendix B (Detailed Project Description).

A typical switching station layout and structures are shown in Plate 1. The switching station will includes a number of elements including aerial structures, gantry structures, support structures, busbars, buildings and electricidal and communications plant and equipment.



Plate 1 Typical switching station layout

The switching station footprint is 3.13 ha. Ancillary infrastructure requirements for the switching station includes access road to the substation and a heli pad. A 30m fire break is also required around the perimeter of the substation. The total footprint requirements for the switching station construction and operation is approximately 14 ha.

2.3.1 Temporary Infrastructure Requirements

A site office, concrete batching plant and laydown area will be established within the above total footprint for the duration of the construction period.

2.4 Summary of Footprint Requirements

Table 1 presents the total footprint requirements for the Project, detailed by key Project component.

Table 1 Summary of clearing requirements by Project component

Project Component	Footprint (ha)
Switching Station Footprint	14.0
Transmission Line Footprint	665.0
Temporary Infrastructure Footprint	11.0

2.5 Construction Camps

The Construction Contractor will utilise three construction camps over the duration of the construction period. The camps include the following.

- Oaks Rush Outback Resort – located on the western end of the alignment. An existing construction camp for the Genex Renewable Energy Hub Project, and formerly the mine camp for the Kidston Gold Mine.
- Greenvale Temporary Camp – located at the Greenvale township, central to the alignment. Utilising a previously disturbed and cleared site.
- Camel Creek Temporary Camp – located on the eastern end of the alignment, exact location is yet to be determined. A 2ha clearing allowance has been made for this camp, which has been accounted for in the footprint allowances detailed in Section 2.4.

2.6 Construction Timing

The construction period is proposed to be approximately 18 months, commencing in July 2022. Works on the switching station and transmission line will be undertaken concurrently. A summary program is provided in Table 2.

Table 2 Indicative Project Program

Activity Description	Commencement Date	Finish Date
Transmission Line		
Vegetation Clearing and Access Tracks	Mid-July 2022	Late January 2023
Concrete Foundations Construction	Late September 2022	Mid-June 2023
Steel Tower Assembly and Erection	Late October 2022	Early July 2023
Stringing of Conductors / OPGW	Late February 2023	Late August 2023
Commissioning and Testing Transmission Line	Late August 2023	Late August 2023
Switching Station		
Switch Yard Construction Bulk Earth Works and Foundations	Mid-July 2022	Late January 2023
Primary Plant Erection	September 2022	June 2023
Testing and Commissioning	August 2023	August 2023

3.0 Habitat Assessment

A detailed ecological assessment (MNES Report) was prepared to support the referral of the Project to the Commonwealth. The MNES Report was prepared with reference to the *EPBC Act Significant Impact Guidelines 1.1*, relevant Commonwealth Approved Conservation Advice, Recovery Plans, draft referral guidelines and the Species Profile and Threat Database (SPRAT).

Following DAWE's decision on the referral, the MNES Report was updated to include the results of additional field surveys and to address the additional information requirements (RFI). The updated report is provided in Appendix E of this Report. Section 3.1 below address each information requirement and identifies where in Appendix E these matters are addressed.

Appendix A of the MNES Assessment includes a current report from the EPBC Act Protected Matters Search Tool (PMST). The PMST report dated 23 February 2022 identifies the listed threatened species and ecological communities considered in this preliminary documentation. This PMST identified three values previously not assessed when the Project was referred:

- Lowland tropical rainforest of the Wet Tropics threatened ecological community
- *Dichanthium queenslandicum*
- *Solanum granticum*.

All three values were assessed as unlikely to occur in the MNES Likelihood of Occurrence detailed in Section 6.6 and 6.7 of the MNES Assessment (Appendix E).

For all listed threatened species and ecological communities identified in the PMST report, the MNES Report (Appendix E) details the desktop and field survey methods used to assess habitat in accordance with the departmental guidelines, other relevant Commonwealth information (i.e. Approved Conservation Advice, Listing Advice, Recovery Plans, draft referral guidelines, SPRAT) and published scientific literature where necessary.

The presence and extent of habitat was determined considering vegetation classification (Qld Regional Ecosystems) and condition (remnant or non-remnant) as well as other specific habitat requirements such as foraging resources, hollow-bearing trees and terrain features (i.e. granite boulder piles, caves

etc). Regional Ecosystem (RE) mapping sourced through the desktop assessment has a scale of 1:100,000. Using field validated data, vegetation mapping was considerably refined to achieve a much finer resolution (1:1000 or lower) for habitat assessments.

Within the MNES Report (Appendix E), desktop resources are detailed in Section 4.1, and field survey methods including effort against the relevant survey guidelines are detailed in Section 4.3.

3.1 Additional Information Requested

3.1.1 Species General Information

RFI item 2.1.1: *“Provide findings from the August 2021 survey on Lot and plans 5234/SP275834 and 1/OC64”.*

A total of three additional surveys were completed in 2021; the methods used, survey effort and results are now detailed in Section 4 and 5 of the MNES Report (Appendix E).

The July and August 2021 field surveys were targeted to Lot 5234 on SP275834 and Lot 1 on OC64 as these locations had not been previously assessed due to land access restrictions. The July 2021 field survey including a targeted Northern quoll trapping survey while the August 2021 survey involved the ground-truthing of vegetation communities, habitat assessments, birding and active searches for yakka skink. Traps deployed in July 2021 were not collected until the completion of the August survey or later.

The extent of habitat values for known and potential MNES including the Northern quoll were refined following this assessment (see Section 5.6 and 6.7 of the MNES Report in Appendix E). Despite the intensive trapping effort in July 2021, no evidence of the northern quoll was recorded within the Study Area (see Section 4.3.3 and 5.7 of the MNES Assessment in Appendix E).

The third additional survey occurred in December 2021 and is discussed below in Section 3.1.2.

RFI item 2.1.2: *“Assessment is required to determine the nature and extent of potential significant impacts on the above listed threatened species”.*

Additional surveys completed in 2021 have allowed for greater certainty in the nature and extent of potential significant impacts on relevant threatened species. The impact assessment has been completed via a two-step process. The risk assessment (Section 9.1 of the MNES Assessment) and the significant impact assessments (Section 9.2 and Appendix E of the MNES Assessment in Appendix E) completed to support the referral have since been updated to reflect the findings of additional survey work. The frequency, duration and magnitude of potential impacts on threatened species have also been considered (see Section 7.1.1 and 7.1.2 of the MNES Assessment in Appendix E). Overall, potential impacts on the potential, likely or known threatened species within the Study Area as a result of the Project are considered known and predictable.

RFI item 2.1.3: *“Investigation is required to determine the project will act as a barrier to movement for any listed threatened species”.*

The MNES Report (Appendix E) has investigated whether the project will act as a barrier to movement for any listed threatened species. This has been done by considering impacts relating to direct habitat loss and fragmentation (see Section 7.1.1 of the MNES Report in Appendix E) as well as the presence of the new infrastructure and other indirect effects (Section 7.1.2 of the MNES Report).

The majority of potential, likely or known threatened species are highly mobile, adapted to fragmented landscapes or are known to still traverse cleared or modified areas without significant risk. The Sharman’s rock wallaby, Greater glider and Yakka skink may be susceptible to fragmentation impacts. However, populations of these species (if present) have persisted in the local area despite the presence of existing potential barriers (the Ross to Kidston 132 kV transmission line and the Greenvale 66 kV sub-transmission line).

The Project has been designed to minimise impacts on dispersing threatened species as described in Section 8.1.2 of the MNES Report (Appendix E).

3.1.2 Species Specific Information

RFI item 2.2.1: *“Additional targeted surveys to meet the minimum requirements of the draft referral guidelines for nationally listed Brigalow Belt reptiles. Or provide rationale for justifying additional surveys are not required”.*

The additional field surveys completed in August and December 2021 included targeted Yakka skink assessments. Survey effort undertaken December 2021 specifically included methods recommended by the draft referral guidelines for the nationally listed Brigalow Belt reptiles and occurred within the recommended seasonal timeframe.

As detailed in Section 4.3.3 of the MNES Report (Appendix E), all potential yakka skink habitat was re-surveyed which included habitat assessments, active searches, microhabitat transects and camera traps. Elliott and cage traps were not employed as no colony sites or latrines were identified. Spotlighting was also conducted in December 2021 and targeted to riparian habitats. Although no evidence of the Yakka skink has been recorded across the field survey program, survey works conducted prior to clearing will include colony searches in areas of potential Yakka skink habitat.

RFI item 2.2.2: *“Additional targeted surveys to meet the minimum requirements of the Queensland Targeted Species Survey Guidelines – Ghost Bat (Hourigan, 2011). Or provide rationale for justifying additional surveys are not required”.*

The additional field survey completed in December 2021 included targeted Ghost bat assessments. Survey effort undertaken December 2021 specifically included methods recommended by the Queensland Targeted Species Survey Guidelines and occurred within the recommended seasonal timeframe.

As detailed in Section 4.3.3 of the MNES Report (Appendix E), all potential Ghost bat roosting sites previously identified (i.e. Qld Department of Resources Abandoned mines mapping) were assessed to determine roost suitability. Although noted to be shallow, unattended bat recorders were deployed at the entrance of the only abandoned mine sites that were confirmed to contain a mine shaft (total of 2 sites). Spotlighting was also conducted in December 2021 using an attended (active) bat recorder for four nights as recommended. No additional surveys are considered necessary given survey effort to date and the lack of evidence for the species presence within the Study Area.

4.0 Impact Assessment

This preliminary documentation provides further information to inform the assessment of the likelihood of the Project having a significant impact on the following MNES: listed threatened species and communities (section 18 and 18A).

The MNES Report (Appendix E), details the assessment of potential impacts on potential, likely or known threatened species and migratory species. As detailed in Section 5.7, 6.7 and 6.8 of the MNES Assessment (Appendix E), three threatened fauna species and one migratory species were recorded during the field program.

A total of twelve migratory species were considered known or potential occurrences within the Study Area. Assessment of those twelve migratory species in accordance with the *Referral guidelines for 14 birds listed as migratory species under the EPBC Act* (DotE, 2015a) or *EPBC Act Policy Statement 3.2.1 – Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species* (DotE, 2015b) concluded no significant impacts on migratory species. This position was endorsed, with migratory species not being a controlling provision and no further information requested.

A total of seventeen threatened species were considered known or potential occurrences within the Study Area. Significant impact assessments (Appendix E and Section 9.2 of Appendix E) undertaken in accordance with the *EPBC Act Policy Statement 1.1 Significant Impact Guidelines* (DotE, 2013a) determined potential significant impacts from the Project on three values, being Sharman's rock wallaby; Koala; and Greater glider.

Additional information requested that is discussed in the below section as well as Section 3.1, support the finding that the Project will not have a significant impact on other known or potentially occurring threatened species.

4.1 Additional Information Requested

4.1.1 Listed Threatened Species

RFI item 3.1.1: *“An assessment of the likely impacts associated with the vegetation clearance, construction and operation/maintenance of the project.”*

Impacts relating to vegetation clearing as a result of the Project including habitat loss and fragmentation, and fauna mortality are discussed in detail in Section 7.1.1 of the MNES Report (Appendix E). The loss of habitat as a result of vegetation clearing is recognised as one of the primary mechanisms for impacts on potential or known threatened species. Potential impacts on these values as a result of operation and maintenance of the Project and decommissioning and rehabilitation of the Project are discussed in Section 7.2 and 7.3 respectively of the MNES Report (Appendix E).

The discussion of potential impacts within this assessment considers magnitude, duration and frequency of the impacts in the corresponding risk and impacts assessments in accordance with referenced guidelines.

RFI item 3.1.2: *“Include the direct and indirect loss and/or disturbance of threatened species individuals and habitat as a result of the proposed action, including clearing for new tracks and temporary camp sites. This must include the quality of the habitat impacted and quantification of the individuals and habitat area (in hectares) to be impacted.”*

Direct and indirect impacts to threatened species individuals and habitat are considered in the MNES Report (Section 7.0 of Appendix E). Access tracks and temporary ancillary infrastructure sites required for construction of the Project have been included in the estimation of direct impacts however it is noted camps have been excluded. Project impact assessments describe and assess direct and indirect impacts with potential to occur during construction, operation and decommissioning. Through the implementation of mitigation measures outlined in Section 8.3 of the MNES Report (Appendix E), no direct losses of threatened flora individuals are anticipated as a result of the Project.

The MNES Report (Appendix E) was prepared in accordance with current Commonwealth Approved Conservation Advice, SPRAT and other published information including draft referral guidelines, species-specific significant impact assessment guidelines and Recovery Plans. References to the guidance considered in the species-specific assessment of likelihood and potential for significant impacts are included in Section 6 (Likelihood of Occurrence), Section 11 (References) and Appendix E (Significant Impact Assessments) of the MNES Report (Appendix E).

RFI item 3.1.3: *“An assessment of the impacts of habitat fragmentation in the proposed action area and surrounding areas, including consideration of species’ movement patterns”.*

As discussed in Section 3.3.1 of this preliminary documentation, direct impacts on habitat including overall reduction and fragmentation (see Section 7.1.1 of the MNES Report (Appendix E)) have been assessed in the context of species’ movement patterns. The majority of potential, likely or known threatened species are highly mobile, adapted to fragmented landscapes or are known to still traverse cleared or modified areas without significant risk.

The Sharman’s rock wallaby, Greater glider and Yakka skink may be susceptible to fragmentation impacts. However, populations of these species (if present) have persisted in the local area despite the presence of existing potential barriers including electrical infrastructure (the Ross to Kidston 132 kV transmission line and the Greenvale 66 kV sub-transmission line) and linear clearing for tracks and fence lines.

Habitat fragmentation impacts have been considered in the assessment of potential significant impacts for all potential or known threatened species (see Section 9.1, 9.2 and Appendix E of the MNES Report in Appendix E).

RFI item 3.1.4: *“An assessment of the likely duration of impacts to MNES as a result of the proposed action”.*

Duration of a potential impact is an important consideration in determining whether the impact is significant i.e. important, notable, or of consequence, having regard to its context or intensity. The MNES Report (Appendix E) discusses potential impacts, including duration, in Section 7.0; generally, duration of impacts at any one location will be limited to the period of construction as the Project progresses in stages across the Project Area. As well as magnitude and frequency, duration was a key factor in the initial risk assessment undertaken in Section 9.0 of the MNES Report (Appendix E), to identify any values that may have elevated potential for significant risks. Significant impact assessments, including further discussion of duration, are presented in Appendix E of the MNES Report (Appendix E).

RFI item 3.1.5: *“A discussion of whether the impacts are likely to be repeated, for example as part of maintenance”.*

Details regarding the frequency of potential impacts has been included in Section 7.0 of the MNES Report (Appendix E). Periodic maintenance within the Project Area will include vegetation clearing (predominantly ground slashing of regrowth canopy vegetation as needed) in areas that were cleared during the construction phase and along tracks (see Section 7.2 of the MNES Report in Appendix E).

It is noted that some indirect impacts on potential or known threatened species may occur as a result of this activity, including the spread of weeds or increased potential for erosion. Potential indirect impacts on threatened species will be actively managed through the Project Environmental Management Plan (Appendix F). Significant impact assessments, including further discussion of impact frequency, are presented in Appendix E of the MNES Report (Appendix E).

RFI item 3.1.6: *“A discussion of whether any impacts are likely to be unknown, unpredictable or irreversible”.*

Potential impacts are considered known, predictable or reversible through implementation of mitigation, management and rehabilitation measures – refer Environmental Management Plan (Appendix F). Powerlink has extensive experience in developing electricity infrastructure across Australia including within Queensland. Powerlink operates under mature management systems and practices to facilitate the developments in a way that manages potential impacts in compliance with legislative requirements and approvals. Further discussion on Powerlink’s environment record is provided in Section 9.0.

RFI item 3.1.7: *“Justification, with supporting evidence, as to how the proposed action will not be inconsistent with:*

- *Australia’s obligations under the Biodiversity Convention, the Convention on Conservation of Nature in the South Pacific (Apia Convention), and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); and*
- *Any relevant recovery plan or threat abatement plan”.*

Powerlink has adopted relevant recovery plans and threat abatement plans into assessments and management planning for threatened species known, likely or having potential to occur in the Study Area. The only CITES listed species also listed under the EPBC Act and having potential to occur in the Project area is Grey falcon and Masked owl (northern). The Australian boobook is a CITES listed species also recorded within the Study Area but is not listed under the EPBC Act.

Powerlink supports the full range of domestic measures Australia has adopted for improved conservation and tighter restrictions on trade of CITES listed species. The Project does not involve international trade in wildlife does not threaten wild populations of plants and animals.

Powerlink will implement extensive avoidance, minimisation and mitigation measures to avoid and minimise impacts to biological diversity as detailed in Section 8.0 of the MNES Report (Appendix E). The Project does not involve the use of biological resources, genetic resources, or biotechnology. Given these considerations the project is not inconsistent with the Convention on Biological Diversity.

The proposed action will not be inconsistent with the *APIA Convention (Convention on Conservation of Nature in the South Pacific)* and the Convention on Biological Diversity. It is understood that the main objective of the APIA Convention is to commit parties to take action for the conservation, utilisation and development of the natural resources of the South Pacific region through careful planning and management for the benefit of present and future generations.

It is noted that the articles in the APIA Convention relate to protection of indigenous flora and fauna in protected areas and national parks. The Project does not traverse any existing protected areas or national parks. The closest protected area is a small, isolated portion of the Girringun National Park encapsulating the Mount Fox crater. This protected area is located 350 to the north of the Project. All other identified protected areas are located greater than 1.5 km from the Project.

Potential impacts on protected areas are therefore anticipated to be limited to minor and indirect impacts on Girringun National Park associated with noise, dust and visual amenity during construction. These impacts are anticipated to be short term and of negligible significance. Standard mitigation measures as provided in the Environmental Management Plan in Appendix F will be implemented to minimise potential dust and noise impacts.

RFI item 3.1.8: *“Assess the impacts of noise, vibration, dust and vehicle strike resulting from the construction and operation of the project to threatened species and their habitat in the project site and surrounding areas”.*

The discussion of potential impacts on MNES as a result of the Project includes details on direct impacts (such as mortality as a result of vehicle strike) and indirect impacts (such as increased noise, vibration and dust) (see Section 8.0 of Appendix E). Specific consideration has been given to determine if any potential or known threatened species are particularly sensitive to such impacts. If so, species-specific mitigation measures have been suggested (see Section 8.3.2 of Appendix E).

RFI item 3.1.9: *“Map showing location of the temporary camp sites and information on any impacts on any protected matters”.*

Temporary infrastructure required to support the construction of the Project has been included and is discussed in Section 2.0, and illustrated in Appendix D (Project Location and Tenure). Worst-case direct impacts detailed in the MNES Report (Appendix E) and used in the assessment of potential significant impacts included clearing that may be required at ancillary sites.

RFI item 3.1.10: *“Total width of easement, including existing electricity infrastructure, and implications on the dispersal ability of threatened species (e.g. Greater Glider)”*, and **RFI item 3.1.13:** *“Assess the risk of obstruction and entanglement of threatened species from the transmission line, including consideration of transmission line height and possible launch/glide heights of the Greater Glider”.*

As discussed in Section 7.2 and the Greater glider significant impact assessment in Appendix E of the MNES Assessment (Appendix E), the Greater glider has a low dispersal ability but is not known to collide with transmission lines.

It has been identified that the species requires a Recovery Plan, however one has not yet been developed. Although taxonomically different, the related Mahogany glider (*Petaurus gracilis*) does have a Draft Recovery Plan (Jackson & Diggins, 2020). Neither this document or other published information indicates that mortality as a result of collision with powerlines is a threat to glider species. The draft Recovery Plan does state that “[d]irect observations of Mahogany Gliders have found them able to glide over gaps in their habitat including tracks, roads and powerline corridors, as long as the trees on each side of the gap are tall enough to allow a complete glide and landing.” Based on this, a widening of existing gaps between habitat areas may not significantly impede the species mobility should tall trees remain on either side that facilitate movement.

The Project will occur within a new easement which is 60 m wide (the Project Area width). However, as the Project Area has been predominantly co-located with an existing cleared linear area, the combined easement width may exceed the volplane distance of the species (>100 m) in rare locations. Design of the Project has sought to maximise the use of high points in the landscape to allow large line spans and less vegetation clearing. Through design refinements, full Project Area width clearing is not required in many locations. Given the average tower height in the proposed transmission line is 60 m, it is considered highly unlikely that towers and connecting lines will be low enough to obstruct gliding. It is noted however that the Project will occur adjacent to a lower, existing powerline which may obstruct gliding in select areas where gliding is required over a larger distance.

Further discussion on threats to the Greater glider and potential project impacts are detailed in Appendix E of the MNES Assessment (Appendix E). Noting the precautionary principle has been applied, potential significant impacts on the Greater glider as a result of the Project are identified.

RFI item: 3.1.11: *“Details on the positioning of transmission towers in relation to watercourses and sediment and erosion control measures to be implemented. Include consideration of soil characteristics and presence of acid sulfate soils, along with potential downstream impacts to MNES”.*

As described in the Project Description (Appendix B), structures have been located 50 m from watercourses where possible. Where the transmission line crosses watercourses, previously cleared tracks for existing crossings will be preferentially used to minimise new watercourse crossings. Where new crossings are required, the construction methodology will be dependent upon the size of the watercourse, however are generally developed in line with accepted development requirements for operational work that is constructing or raising waterway barrier

In sensitive areas such as near watercourses, alternative methods of clearing such as hand clearing (chainsaw) or the use of a fella-buncher (or excavator with cutting attachment) will be employed if required. These techniques are more labour intensive and time consuming than other mechanical means but achieve the desired clearing outcome and allow potential indirect impacts relating to sediment and erosion to be controlled.

The Project Environmental Management Plan (Appendix F) also includes specific mitigation and management measures for sediment and erosion control for all phases of the Project.

RFI item 3.1.12: *“Details on the frequency and activities involved with the maintenance of the transmission line and any associated impacts”.*

Maintenance staff will carry out scheduled inspections of the line, easement and access tracks every two to four years, depending on the risk of vegetation growth. These inspections (patrols) are either by vehicle or helicopter. Maintenance staff will also carry out routine inspections of the switching station and detailed maintenance of all plant and equipment at regular intervals. Additional inspections at any Project location may be required as a result of equipment failure, damage, modifications and upgrades. In consultation with the landholder, maintenance may involve vegetation management to control regrowth in areas cleared as part of the construction of the Project. Maintenance activities are detailed further in Appendix B (Detailed Project Description).

This level of activity is considered to be largely consistent with current levels of activity that occur in the adjacent areas where existing electricity infrastructure occurs. Nonetheless, the discussion of potential Project impacts in Section 8, 9 and Appendix E of the MNES Report (Appendix E) considers maintenance activities.

5.0 Avoidance, Mitigation and Management Measures

Powerlink has implemented the hierarchy of management principles in the planning for and development of the Project. The avoidance, mitigation and management measures to protect MNES values are identified in Section 8 of the MNES Assessment (Appendix E).

Avoidance of potential impacts on MNES has been prioritised. Powerlink sited the Project with consideration to a number of factors including the location of an existing mining interests, the optimal path through large escarpments, landholder feedback and environmental and social constraints.

As described in Section 8.1.2 of the MNES Report (Appendix E), full clearance of the Project Area width (60 m) was originally proposed to ensure Powerlink's safety, reliability and operational requirements could be easily met during all phases of the Project. Due to the presence of extensive areas of potential threatened species habitat, Powerlink undertook a rigorous footprint optimisation process which included a review of the Project design. Through this process, a 40% reduction in direct impacts to threatened species habitat was achieved.

An Environmental Management Plan (Appendix F) has also been prepared for the Project and provides certainty in how risks will be managed during all phases of the Project. The plan identifies the performance criteria and general requirements / standard operational controls under sixteen different themes that will be implemented to meet Powerlink's environmental management requirements. Key themes relevant to the management of potential impacts on MNES values include biosecurity, agricultural chemicals, soils and water, acid sulfate soils, native fauna, vegetation management, contaminated land, waste, hazardous materials, air quality, noise and vibration, visual amenity, bushfire and transport and traffic.

5.1 Additional Information Requested

RFI item 4.1: *"A detailed summary of measures proposed to be undertaken by the proponent to avoid, mitigate and manage relevant impacts of the proposed action on relevant MNES, including those required through other Commonwealth, State and local government approvals".*

A detailed summary of avoidance and mitigation measures proposed to protect MNES values is provided in Section 8 of the MNES Assessment (Appendix E). This section includes 'general mitigation measures', which cover themes including weed and pest spread, contamination, noise and light disturbance, water extraction, relocation of microhabitat features and rehabilitation. Species-specific mitigation measures have also been included. The Project Environmental Management Plan (Appendix F) also details how potential Project risks will be managed and monitored.

RFI item 4.2: *"Copy of Environmental Management Plan".*

The Project's Environmental Management Plan is provided in Appendix F.

RFI item 4.3: *"The proposed measures must be based on best available practices, appropriate standards, evidence of success for other similar actions and supported by published scientific evidence".*

Recommended measures to avoid and minimise risk of significant impacts on MNES identified in Section 8 of the MNES Assessment (Appendix E) are based on legislative requirements, industry best practice standards, species-specific guidance and Powerlink management systems and processes. The proposed avoidance, mitigation and management measures to be implemented during construction, operation and maintenance stages of the Project respond directly to government and industry recommendations, including but not limited to, SPRAT, Approved Conservation Advice, Threat Abatement Plans and Recovery Plans.

Through the delivery of preceding electricity infrastructure development projects, Powerlink has established a mature management system and operational standards, supported by a strong environmental track record demonstrating evidence of success in support of the proposed measures.

RFI item 4.4: *"All proposed measures for MNES must be drafted to meet the 'S.M.A.R.T' principle".*

As described above, the primary avoidance and mitigation measures proposed to protect MNES values are identified in Section 8 of the MNES Report (Appendix E). The Project Environmental Management Plan (Appendix F) also details how potential Project risks will be managed and monitored.

While the Project will be constructed in phases, the specific and measurable components depend on the programmed work schedule. When works with potential for impacts are planned to occur, implementation of proposed avoidance, mitigation, management and monitoring measures, and corrective actions will be appropriate for the programmed work schedule, location of works and activities being undertaken. Where practical, the Environmental Management Plan (Appendix F) identifies timing, frequency and duration of proposed measures.

RFI item 4.5: *“Details of specific and measurable environmental outcomes to be achieved for relevant MNES. All commitments must be drafted using committal language (e.g. ‘will’ and ‘must’) when describing the proposed measures”.*

The proposed avoidance, mitigation, management and monitoring requirements identified in the supporting documentation represent commitments, including those identified in the MNES Assessment (Appendix E) and Environmental Management Plan (Appendix F).

RFI item 4.6: *“Information on the timing, frequency and duration of the proposed avoidance, mitigation, management and monitoring measures, and any corrective actions to be implemented”.*

As described above, the Project will be constructed in phases and the specific and measurable components depend on the programmed work schedule. When works with potential for impacts are planned to occur, implementation of proposed avoidance, mitigation, management and monitoring measures, and corrective actions will be appropriate for the programmed work schedule, location of works and activities being undertaken. Where practical, the Environmental Management Plan (Appendix F) identifies timing, frequency and duration of proposed measures.

RFI item 4.7: *“An assessment of the expected or predicted effectiveness of the proposed measures”.*

Powerlink has experience in planning and developing Projects with MNES constraints. Existing approved management plans have been adapted to address site-specific MNES values, which encompasses regulatory approval requirements, extensive experience and learnings in infrastructure development in Queensland. Through implementation of similar planning frameworks and environmental management plans, Powerlink has achieved regulatory compliance, environmental performance outcomes and social-licence to operate.

RFI item 4.8: *“Any statutory or policy basis for the proposed measures, including reference to the SPRAT Database and relevant approved conservation advice, recovery plan or threat abatement plan, and a discussion on how the proposed measures are not inconsistent with relevant plans”.*

As per RFI item 4.3 discussed above, underpinning the proposed avoidance, mitigation and management measures detailed in the MNES Report (Appendix E) and the Environmental Management Plans (Appendix F) are detailed habitat assessments and impact assessments which make direct reference to the SPRAT Database and relevant approved conservation advice, recovery plan or threat abatement plan. There are no notable inconsistencies with relevant plans.

RFI item 4.9: *“Details of ongoing management, including monitoring programs to support an adaptive management approach, that validate the effectiveness of the proposed measures and overall demonstrate that environmental outcomes will be achieved”.*

Proposed ongoing management and monitoring are detailed in Section 8 and Appendix E of the MNES Report (Appendix E) and the Environmental Management Plans (Appendix F) and include:

- Where excavation is required, these areas will be monitored by a spotter catcher to ensure no Ground-dwelling MNES fauna are entrapped
- Ongoing monitoring of the Project Area to identify any new incidence of weed and pest infestation.

RFI item 4.10: *“Details of tangible, on-ground corrective actions that will be implemented in the event the monitoring programs indicate that the environmental outcomes have not or will not be achieved”.*

Adaptive management processes integrate monitoring into the implementation of avoidance, mitigation and management measures as detailed in the Environmental Management Plan (Appendix F) and Section 8 of the MNES Report (Appendix E). Some examples of corrective actions include:

- Utilise spotter catcher to remove and relocate fauna from construction site prior to recommencement of works.
- Reinforce need to conduct activity in designated and approved areas during site toolbox / induction meetings.

RFI item 4.11: *“Details of any measures proposed to be undertaken by Queensland and local governments, including the name of the agency responsible for approving each measure”.*

There are no measures proposed to be undertaken by Queensland or local governments. Through the development of the Project, Powerlink will consult with relevant government agencies and notify/report as required by relevant approvals.

6.0 Offsets

6.1 Summary of Significant Residual Impacts

Powerlink is committed to the protection of the environment and management of environmental impacts as a result of Powerlink activities. Powerlink have undergone an extensive impact minimisation process to avoid, minimise and mitigate potential impacts as a result of the Project as discussed in Section 5.0.

Significant impact assessments have been undertaken for eight known or potentially occurring MNES values in accordance with the EPBC Act Policy Statement 1.1 Significant Impact Guidelines: Matters of National Environmental Significance (Department of the Environment, 2013).

The significant impact assessments, relevant criteria and supporting documents are detailed in Section 4.0 of this Report and Appendix F of Appendix E (MNES Report). In determining significant residual impacts, the precautionary principle has been applied when deciding whether or not the Project may have a significant residual impact on MNES. Findings of these assessments determined potential significant residual impacts on the following three MNES may occur as a result of the Project, as detailed in Table 3. Though further consultation with DAWE it has been determined that an offset will also be require for the Squatter Pigeon (*Geophaps scripta scripta*) breeding and foraging habitat, also include in Table 3 below.

Table 3 Significant residual impacts to MNES

MNES	Likelihood of Occurrence	Potential habitat within Project Area	Area of habitat to be directly impacted	Total Impact
		Utilisation	(ha)	(ha)
Greater Glider	Known	Breeding and foraging	27.27	67.91
		Foraging and dispersal	40.64	
Koala	Likely	Refuge	585.78	626.01
		Foraging	16.99	
		Dispersal	23.24	
Sharman's rock wallaby	Known	Breeding	6.29	17.09
		Foraging and dispersal	10.8	
Squatter Pigeon	Known	Breeding	195.18	239.99
		Foraging	44.81	

6.2 Approach to Offset Package

As per Part 9 of the EPBC Act and the *Environment Protection and Biodiversity Conservation Act 1999* Environmental Offsets Policy (EOP), unavoidable significant residual impacts require the delivery of offsets. The provision of offsets is considered both a feasible and reasonable approach for the Project, which has implemented numerous measures to avoid, minimise and mitigate significant impacts to MNES.

Section 7.2 of the EOP states that suitable offsets must be mostly direct offsets but may include other compensatory measures (OCM Offsets). Offsets must primarily comprise direct offsets, which should form a minimum of 90% of the total offset requirement.

To compensate for the residual impacts of the Project, a dual Offsets Package is proposed including the following.

- A Direct Offset to compensate for the Project offset requirement for full significant residual impact on Koala, Greater Glider and Squatter Pigeon.

- Other Compensatory Measures (OCM) Offsets to compensate for the Project offset requirement for the full significant full significant residual impact on the Shamans Rock Wallaby.

Table 4 provides a breakdown of the Direct Offset and OCM Offset in terms of percentages of both the overall impact area and the impact to the individual species habitat. The dual offset approach provides full acquittal of offset requirements for the Project in line with the EOP requirements for Direct and OCM Offsets.

Table 4 % Offset Acquittal of MNES per Offset Mechanism (%s rounded)

MNES	Total Impact to species habitat (ha)	% offset of impact to species habitat		% offset of Project footprint (690 ha)	
		Direct	OCM	Direct	OCM
Koala	626.01	100%	0%	90%	0%
Greater Glider	67.91	100%	0%	10%	0%
Sharman's rock wallaby	17.09	0%	100%	0%	2.5%
Squatter Pigeon	239.99	100%	0%	35%	0%

6.3 Direct Offset

A Direct Offset Management Strategy (OMS) is provided in Appendix G of this Report. The purpose of the Direct OMS is to propose an offsets that will be delivered to counterbalance the significant residual impacts of the Project on the Koala, Greater Glider and Squatter Pigeon through a direct land based offset.

This Offset Area would directly offset 100% of potential significant residual impacts to the Koala, Greater Glider and Squatter Pigeon, as a result of the Project. The Offset Area was chosen based on the following factors considered important in improving the condition and viability of existing habitat for the species.

- Suitable habitat for the Koala and in proximity (0.4 km) to a known record of the species.
- Confirmed presence and suitable habitat for the Greater Glider.
- Suitable breeding and foraging habitat for the squatter pigeon (southern subspecies).
- Connectivity with adjacent habitat in the greater landscape.
- Location and configuration, which enables the area to be appropriately managed to reduce threatening processes.

The Offset Area has been assessed against the Commonwealth Offsets Assessment Guide (OAG) for Koala, Greater Glider and Squatter Pigeon habitat impacted by the Project and the *Environment Protection and Biodiversity Conservation Act 1999* Environmental Offsets Policy for delivery of a direct offset. Outcomes of these assessment are presented within the Draft Direct OMS (Appendix G).

Management strategies will be designed within the Offset Area Management Plan (OAMP) to ensure that conservation outcomes for Koala, Greater Glider and Squatter Pigeon are achieved, which are based on the recovery actions developed for the species. Threatening processes within the Offset Area will be mitigated and the habitat quality will be increased to provide for sustainable populations of the species. In doing so the potential Offset Area will deliver a conservation outcome that will maintain and improve the viability of the affected MNES.

Prior to commencement of the action, Powerlink will secure a legal agreement with the landowner to protect the proposed Offset Area. Within 12 months of commencement (likely earlier), Powerlink will legally secure the Offset Area through a Voluntary Declaration (vDec) under the provisions of the *Vegetation Management Act 1999*.

Powerlink will prepare and implement an OAMP at the Offset Area to improve Koala, Greater Glider and Squatter Pigeon habitat to the BioCondition attribute targets prescribed within this Direct OMS. Based on the OAG, ecological benefit will be achieved for the Koala, Greater Glider and Squatter Pigeon

within 20 years. The OAMP will be prepared to ensure the efficient and effective delivery of a conservation outcome in a timely manner.

6.4 Other Compensatory Measures (OCM) Offset

A Draft Other Compensatory Measures (OCM) Offset Strategy is provided in Appendix H of this Report. The purpose of this Draft OCM Offset Strategy is to document the proposed approach to delivery of “Other Compensatory Measures” under the EPBC Act and EOP.

To compensate for the significant residual impact to the *Petrograle sharmani* (Sharmans Rock-Wallaby), Powerlink is proposing a financial contribution to Australian Wildlife Conservancy (AWC) in support of current and future programs. The total financial contribution for the OCM Offset Strategy has been calculated based on the Queensland Government Offset Calculator and totals \$196,720.

Further details on the OCM Offset approach is provided in Appendix H, however in summary, with additional, dedicated funding, the following activities to protect, conserve and monitor Sharman’s Rock-Wallaby.

- Continued conservation and land management and development of dedicated Conservation Management Plans.
- Enhanced scientific monitoring.
- Dedicated research Projects.

The OCM Offset Strategy thereby provides a conservation gain through the following.

- The proposed activities and programs proposed respond to the threats and align to the recommended items in the *Petrograle sharmani* (Sharmans rock-wallaby) Conservation Advice.
- Outcomes of the research Projects can be used to inform wider conservation management for the Sharmans rock-wallaby.
- More than 70 percent of known colonies for the Sharman’s rock-wallaby, are located in the Mount Zero-Taravale Sanctuary. The ongoing conservation and management activities proposed to be undertaken are critical to the protection and long-term conservation of the species.
- The continuation and extension of conservation management activities provide a benefit which would otherwise not be realised due to the cessation of existing Queensland Government funding by 2023.

7.0 Ecologically Sustainable Development

Australia's National Strategy for Ecologically Sustainable Development defines ecologically sustainable development (ESD) as:

'using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased'.

Section 3A of the EPBC Act defines principles of ecologically sustainable development as follows.

- (a) Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.*
- (b) If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.*
- (c) The principle of inter-generational equity—that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.*
- (d) The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making.*
- (e) Improved valuation, pricing and incentive mechanisms should be promoted.*

The following section details how the Project aligns with the principals of ESD.

7.1 Supporting Renewable Energy

As a connection to a renewable energy development, the Project is consistent with a number of international, Commonwealth, State and regional/local agreements, policies and plans that aim to respond to climate change and the development of renewable energy infrastructure. These policies include The Paris Agreement, The Kyoto Protocol, the Commonwealth Renewable Energy Target, Queensland renewable energy target and the National Strategy on Ecological Sustainable Development.

Renewable resources offer a contribution to the long-term alternative energy supply and have several advantages over conventional fossil fuels. Renewable resources:

- create virtually no carbon dioxide (CO₂) or other air pollutants during their operation and as such do not contribute to either global climate change or local air pollution
- contribute to a reduction in our dependence on the finite reserves of fossil fuels, which are being rapidly depleted
- reduce dependence on oil and gas imports and increase self-sufficiency in energy production.

7.2 Environmental Decision Making

Powerlink has implemented the hierarchy of management principles in the siting and design of the Project to date. These principles and the order in which they have been applied is as follows. A full description of the activities undertaken within this hierarchy are detailed in Section 8.0 of the Appendix E (MNES Report).

- **Avoid:** locating activities to avoid direct and indirect impacts on environmental values.
- **Minimise:** minimising direct and indirect impacts where they cannot be completely avoided.
- **Mitigate:** implementing mitigation and management measures to reduce direct, indirect and cumulative impacts.
- **Remediate and rehabilitate:** actively remediate and rehabilitate impacted areas to promote long-term recovery.

- Offset: provide suitable offsets for activities that result in significant residual impacts to ecological values even with the implementation of the above principles.

8.0 Economic and Social Matters

8.1 Public Consultation

Powerlink is committed to effective and genuine stakeholder and landholder engagement practices. Powerlink's activities are guided by a Stakeholder Engagement Framework which is underpinned by the key principles of integrity, openness, responsiveness, accountability and inclusiveness. These principles are consistent with Powerlink's values – accountability, customer, teamwork and safety. Powerlink's Stakeholder Engagement Framework is provided in Appendix I (Powerlink Stakeholder Engagement Framework).

Powerlink has undertaken consultation with Federal, State and Local Governments, elected representatives, industry groups and landholders as part of the Project. Powerlink has been working closely with landholders since the commencement of the Project in 2016, with a dedicated Landholder Relations team in place to form effective relationships, proactively provide relevant information and manage any enquiries.

Appendix J (Project Consultation Activities) provides an overview of key engagement activities undertaken for the project to date, demonstrating Powerlink's focus on effective engagement early in the project's lifecycle. Engagement activities were undertaken to help gain meaningful input into social, environmental and technical matters to be considered during the initial project design development phase and subsequent construction phase.

8.2 Consultation with Indigenous Stakeholders

8.2.1 Native Title

Native title is defined under the Commonwealth *Native Title Act 1993*. Native title rights and interests are rights and interests in relation to land or waters held by Aboriginal peoples or Torres Strait Islanders under their traditional laws and customs, and recognised by the common law of Australia.

Native title rights may exist regardless of whether there is a native title claim or determination in relation to the relevant land or waters, and may be exclusive or non-exclusive rights. Non-exclusive rights may co-exist with the rights of others, such as a pastoral leaseholder.

Non-exclusive native title rights and interests have been determined to exist in relation to parts of the Project. Table 1 details the native title determinations in relation to the Project. There are no current native title claims within proximity of the Project.

Table 1 Native title determinations subject to the Project

Name	Reference	Date Determined	Outcome	Rights
Hoolihan on behalf of the Gugu Badhun People #2 v State of Queensland	QCD2012/002	1 August 2012	Native title exists in the entire determination area	Non-exclusive
Ewamian People #2	QCD2013/006	26 November 2013	Native title exists in the entire determination area	Non-exclusive
Ewamian People #3	QCD2013/007	26 November 2013	Native title exists in the entire determination area	Non-exclusive

Any acts or dealings in relation to land and waters that affect native title must comply with the *Native Title Act 1993* in order to be validly done. To the extent that native title exists or may exist in the area of the Project, Powerlink will comply with the requirements of the Act for securing an easement for the transmission line and acquiring land for a new switching station. Powerlink typically complies with section 24KA of the *Native Title Act 1993*, which applies to facilities for services to the public, for its transmission line easements. Under s 24KA, native title is not extinguished, but is 'suppressed' while the easement remains in place.

In addition to relying on s24KA, Powerlink has voluntarily commenced the negotiation of an Indigenous Land Use Agreement (ILUA) under the NTA to address other native title matters, including compensation.

The Guybal Munjan switching station, near Mount Fox, is located on freehold land. A Native Title application may be made over freehold land on the basis that freehold was invalidly granted, but the chances of this happening are very low.

8.2.2 Consultation and Engagement

Powerlink is committed to establishing and maintaining respectful and cooperative engagement with Aboriginal Parties. Early engagement with the native title parties commenced in 2017 during the corridor selection phase and has continued throughout the project development.

The *Aboriginal Cultural Heritage Act 2003* requires that a person who carries out an activity must take all reasonable and practicable measures to ensure the activity does not harm Aboriginal Cultural Heritage (the Cultural Heritage Duty of Care).

A person is taken to have complied with the Duty of Care if they carry out their activities in accordance with a cultural heritage management plan, Native Title agreement or another agreement with an Aboriginal Party.

Powerlink has established processes for, and significant experience in working closely with Traditional Owners for the management of cultural heritage risks in transmission line and switching station development. Powerlink has negotiated cultural heritage management agreements (CHMAs) with the relevant Native Title parties (the Aboriginal Parties) in accordance with the *Aboriginal Cultural Heritage Act 2003* and intends to manage any Aboriginal cultural heritage risks through the implementation of these agreements.

The CHMAs include agreed methodology for the identification and management of Aboriginal cultural heritage sites and values within, and in the vicinity of, the Preferred Alignment. This includes detailed, on-site cultural heritage surveys of the Project by the Traditional Owners and agreement on protection and management requirements. The locations and significance of the sites identified on the DSDATSIP database searches will be confirmed through surveys conducted under the CHMAs.

8.3 Social and Economic Considerations

The Project value is approximately 233 million, with 147 million invested by the Queensland State Government. The Project is required to connect the Kidston Renewable Energy Hub to the National Electricity Market. The Kidston Renewable Energy hub has received funding to the value of 56 million from the Australian Renewable Energy Agency (AERNA) and 610 million from the Northern Australia infrastructure Facility (NAIF). Both the renewable generation facility and connection projects will play a key role in driving economic growth and diversifying the service offering in the region.

The Project potentially provides a range of social, economic and environmental benefits, including:

- creation of jobs during the construction period and for ongoing operation
- supporting major renewable energy projects
- supporting both the Commonwealth Renewable Energy Target and State planning intent
- supporting the diversification of Queensland's electricity generation mix.

Specialist contractors will be engaged by Powerlink to construct the transmission line and switching station. The Project will support approximately 400 jobs. The regional community of interest has an unemployment rate of 6.3%. Employment generated during the construction period is likely to be of

regional and local benefit. As the proposed transmission line is approximately 186 km long, it is likely the opportunity for project-related employment will occur across a broad geographic area and flow-on effects to small business will be equally wide spread. Powerlink is currently engaging with each LGA to identify opportunities for existing businesses to provide support to its Project.

Where new facilities are required, these will be developed in consultation with LGAs to determine the most appropriate location and services. During operation, Powerlink employees will be required to travel to the Project for regular maintenance activities. Powerlink employees are likely to stay with the region at existing accommodation facilities, as well as spend money for food, fuel and a range of other potential services. During both construction and operation, there is a potential for a direct benefit to the local community, in employment and provision of local services.

9.0 Environmental Record

Powerlink is committed to the protection of the environment and management of adverse environmental impacts as a result of Powerlink activities. Every Powerlink employee or representative (i.e. contractors) are responsible and accountable for environmental management, and Powerlink's leaders are active role models of this commitment.

To the Project Teams knowledge, there have been no past or present proceedings under a Commonwealth, State or Territory law against Powerlink for the protection of the environment or the conservation and sustainable use of natural resources.

Powerlink have a successful history of compliance with requirements and approvals under the EPBC Act. Powerlink have referred approximately 20 projects over the past 21 years for assessment under the EPBC Act. Powerlink have also demonstrated the ability and commitment to deliver offsets for their Projects. Powerlink successfully deliver an offset for the Ingham to Tully 275/132KV Transmission Line Replacement Project between Ingham and Tully in Far North Queensland (2010/5346).

Powerlink's Health, Safety and Environment Policy provide in Appendix K (Environment Policy), outlines the commitment to delivering environmental outcomes for everyone, everywhere and everyday by the following.

- Setting objectives and targets to monitor performance aimed at the elimination or minimisation of work- related injury, illness, and environmental harm.
- Systematically identifying, assessing, and managing as far as reasonably practicable the health and safety risks and environmental impacts which may arise from our activities.
- Ensuring health, safety and environmental responsibilities are clearly defined and individuals are accountable for performance within their scope of responsibility.
- Consulting and communicating with employees and other stakeholders on relevant health, safety and environmental matters.
- Ensuring the planning, design, construction, operation and maintenance of the network assets is safe, including electrically safe.
- Applying a continuous improvement framework to the development, implementation and review of standards, procedures and supporting documentation which complies with health, safety and environmental statutory obligations; is fit for purpose; drives improved health and safety performance, and ensure the protection of the environment and prevention of pollution.
- Providing the necessary resources to meet these commitments.

Additionally, Powerlink's Code of Conduct for Contractors outlines the following requirements for representatives of Powerlink to meet regarding protecting the diverse environments in which we work during the construction, operation and maintenance of our network.

- Taking all reasonable measures to minimise interference, disturbance, injury, erosion or damage to the native environment, including any flora and fauna, and bed or banks of any watercourse or lake, or Cultural Heritage (unless authorised under an associated permit, approval or licence).

- Complying with the requirements of environmental legislation and any Environmental Management Plan and Environmental Work Plan that applies to the property being accessed.
- Taking all reasonable actions to ensure that weeds, pests or pathogens are not spread.

10.0 Conclusion

This Report has presented the Preliminary Documentation on behalf of Powerlink for the Genex Kidston Connection Project. The Preliminary Documentation is in response to the Commonwealth DAWE request for additional information (2021/9060) for an assessment under the EPBC Act.

Powerlink is committed to the protection of the environment and management of environmental impacts as a result of Powerlink activities. Powerlink have undergone an extensive impact minimisation process to avoid, minimise and mitigate potential impacts as a result of the Project.

Significant impact assessments have been undertaken for eight known or potentially occurring MNES values in accordance with the *EPBC Act Policy Statement 1.1 Significant Impact Guidelines: Matters of National Environmental Significance* (Department of the Environment, 2013). The precautionary principle has been applied when deciding whether or not the Project is likely to have a significant impact on a value. The significant impact assessments determined potential significant impacts from the Project on the Sharman's rock wallaby; Koala; and Greater glider.

Powerlink has implemented the hierarchy of management principles in the planning for and development of the Project. Due to the presence of extensive areas of potential threatened species habitat, Powerlink undertook a rigorous footprint optimisation process which included a review of the Project design. Through this process, a 40% reduction in direct impacts to threatened species habitat was achieved.

Measures to avoid and minimise risk of significant impacts on MNES are based on legislative requirements, industry best practice standards, species-specific guidance and Powerlink management systems and processes. The proposed avoidance, mitigation and management measures to be implemented during construction, operation and maintenance stages of the Project respond directly to government and industry recommendations, including but not limited to, SPRAT, Approved Conservation Advice, Threat Abatement Plans and Recovery Plans.

An Environmental Management Plan has also been prepared for the Project and provides certainty in how risks will be managed during all phases of the Project. The plan identifies the performance criteria and general requirements / standard operational controls under sixteen different themes that will be implemented to meet Powerlink's environmental management requirements.

To compensate for the residual impacts of the Project, a dual Offsets Package is proposed, including Direct Offsets and Other Compensatory Measures. The Direct Offset is proposed to compensate for the Project offset requirement for the full significant residual impact on Koala, Greater Glider and Squatter Pigeon. The Other Compensatory Measures Offsets is proposed to compensate for the Project offset requirement for the full significant residual impact on the Shamans Rock Wallaby.