Borumba to Halys Transmission Connection Project

Application Number: **02788** Commencement Date: **18/02/2025** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Borumba to Halys Transmission Connection Project

1.1.2 Project industry type *

Energy Generation and Supply (non-renewable)

1.1.3 Project industry sub-type

Transmission Line

1.1.4 Estimated start date *

01/07/2027

1.1.4 Estimated end date *

01/08/2080

1.2 Proposed Action details

1.2.1 Provide an overview of the proposed action, including all proposed activities. *

The Borumba to Halys Transmission Connection Project (the proposed action, henceforth referred to as the Project) will connect the proposed Borumba Pumped Hydro Energy Storage (PHES) Project to the Queensland energy transmission network. The Project will involve the construction of a high-voltage transmission line from the existing substation at Halys to a new substation to be constructed at Borumba via the existing Tarong Substation.

The Project is one of two critical connection projects to connect the proposed Borumba PHES to the electricity network. This Project will support load growth and future renewable energy developments in the Wide Bay and Central Queensland regions, while also providing access to high-quality renewable resources in Southwest Queensland. The Project is currently proposed to be subject to a regulatory investment test through the Priority Transmission Investments framework.

A detailed Project description is provided in Attachment A.

The Project comprises the following key components:

- Establishment of a new substation, proximate to the proposed Borumba PHES
- Approximately 99 kilometres (km) of new dual circuit 275 kilovolts (kV) High-Temperature Conductor (HTC) overhead transmission connecting a new substation at Borumba to the existing Halys Substation via the existing Tarong Substation
- Connection into the existing Tarong Substation will require extension of the substation platform and re-arranging the bays to allow for new connections
- Connection into the existing Halys Substation
- Heavy vehicle access tracks to the transmission line are required to enable construction and for ongoing operation and maintenance activities.

To support the referral, the following terms are defined below and mapped in **Att-A, Appendix A, Figure 1, pp 46-52.**

Disturbance Footprint: The Disturbance Footprint (875 ha) captures the expected footprint of the transmission lines, access tracks and substations as follows:

- **Transmission line:** The transmission line connects the proposed substation at Borumba to Halys Substation via Tarong Substation and includes.
    - Approximately 66 km of new transmission line from Borumba to approximately 13 km east of Tarong Substation with a 70 m easement.
    - Approximately 13 km of new transmission line co-located (parallel to), and on the northern side of an existing transmission line between Noora Road and Tarong Substation with a 70 m easement.
    - Approximately 20 km of transmission line to utilise part of the easement (132 kV Tarong to Chinchilla) between Halys and Tarong Substations (approximately 50 m wide), with a 20 m widening of the majority of the existing easement. The new line will be replacing the existing 132 kV Tarong to Chinchilla Transmission Line.
    - Although a 70 m easement has been allowed for, the Disturbance Footprint represents the extent of clearing of the transmission easement based on conservative assumptions using a preliminary line design, LiDAR and Powerlink's operation and maintenance specifications that include electrical safety and bushfire risk requirements. Nominally the transmission line component of the Disturbance Footprint is 50 m wide for spans with only low bushfire risk vegetation (based on Queensland Bushfire Prone Area mapping potential impact buffer, low, medium categories), and 70 m for spans with high bushfire risk vegetation (based on Queensland Bushfire Prone Area mapping high and very high categories). Several opportunities to over span (avoid disturbance) deep valleys where there is clearly a considerable height distance between the vegetation and conductors have been identified and included in the Disturbance Footprint. Other such opportunities will be assessed in the refinement stages of the project.

    - Provision for tower pads has been included in the transmission line Disturbance Footprint. Minimum sizes for proposed tower pads range from 40 m x 40 m for lower bushfire risk areas (mapped as hazard rating potential impact buffer, low or medium) and a minimum 50 m x 50 m for higher bushfire risk areas (mapped as hazard rating high or very high). Individual tower pad sizes have been increased in some instances to 50 m x 50 m, 60 m x 60 m or 70 m x 70 m based on structure type, height and required tower pad earthworks (i.e. benching). The area within the Disturbance Footprint to accommodate the transmission line will be approximately 608 ha.
- **Substations:** The current design footprint or expansion footprint of substations plus a buffer to allow for refinement has been captured for assessment. This includes approximately 21 ha for the substation at Borumba and a conservative 32 ha for Tarong substation expansion and to allow for re-configuration of existing feeders into the substation if required.
- **Access tracks:** The access tracks have been preferentially located to utilise existing access routes or to align with areas that are already likely to be impacted by the proposed transmission infrastructure where possible, thereby minimising additional disturbance. The predicted disturbance footprint of the current access track design, that is additional to the disturbance footprint of the transmission lines, is approximately 212 ha of the disturbance footprint, and is based on the following:
    - Co-located - The transmission infrastructure will be serviced through existing access tracks or via the existing easements. No additional disturbance for access tracks has been captured through these areas.
    - Non-co-located access tracks within the 1 km Project Area buffer - While maximum use of existing access tracks is a priority for establishing connectivity to the proposed alignment, approximately 66 km of the transmission line is not co-located with existing assets, requiring bespoke access. The disturbance footprint for access tracks has been developed based on a detailed review within a 1 km buffer of the concept alignment where LiDAR is available to establish a concept access track footprint and establish the disturbance footprint for access.
    - Non-co-located access tracks outside of the 1 km Project Area buffer - Beyond the current boundary of available LiDAR, a preliminary assessment of potential disturbance along existing access tracks to connect into the local road network has been included with a buffer of 10 m to capture an estimate of potential disturbance to establish access. The potential for disturbance within these areas has been assessed under a worst-case scenario basis, where full clearing would be required, however future assessment may determine that no upgrade or vegetation impacts would be required to these identified tracks.

Project Area: The Project Area (28,752 ha) generally includes an approximately 2 km-wide area (1 km buffer on the proposed transmission centreline) to allow for minor realignments in response to design refinement more detailed studies and ongoing negotiation with key stakeholders, including landholders. The Project Area is expanded beyond the 1 km buffer in locations to capture new access tracks, or where uncertainty still exists regarding the concept alignment and ancillary works locations.

Given the current concept level design there is still the potential for a future realignment to avoid areas of difficult terrain for access and constructability or locations where consultation is ongoing with key stakeholders. Future changes to the Disturbance Footprint would be expected to occur within the Project Area, and as such this area is at times conservative. In some locations the Project Area also captures a 50 m wide buffer on existing tracks identified for potential upgrades to support access to the proposed alignment.

No avoidance or no-go areas have been mapped as part of this referral.

No avoidance or retention areas have been identified as part of this referral.

Activities subject to this referral include:

- Transmission line construction activities include:

    - Site set out
    - Flora and fauna surveys
    - Mobilisation, including establishment of laydowns and offices
    - Installation of gates, grids, clean down bays and access tracks
    - Vegetation clearing
    - Tower site benching
    - Foundation installation
    - Structure assembly and erection
    - Conductor, earth wire and OPGW stringing
    - Site rehabilitation
    - Mobilisation.
- Substation construction activities include
    - Site preparation
    - Vegetation clearing
    - Earthworks and levelling for the substation platform and access road
    - Site fencing
    - Installation of a site drainage system
    - Installation of a substation cable trench and conduit system
    - Installation of the substation earthing mat
    - Installation of the substation structure and building foundations
    - Buildings, structure and electrical equipment erection
    - Conductor and earth wire stringing
    - Site rehabilitation.

These activities as well as operational and decommissioning activities are described in **Att-A, Sections 3 and 4, pp 24-44.**

The majority of potential impact to MNES will occur in the construction and operational phases of the project.

Potential impacts related to construction of the Project include vegetation clearing, habitat fragmentation, loss and disturbance to fauna habitat and fauna injury and direct mortality. Potential indirect impacts relate to increased edge-effects, introduction and spread of weeds, pest fauna and pathogens, erosions, sediment runoff and alteration to hydrology, increased dust and environmental spills.

Potential impacts on MNES values during the operation and maintenance phase will include permanent loss of habitat, persisting habitat fragmentation, edge effects, potential entanglement on barbed wire fencing and electrocution on powerlines. Activity within the Disturbance Footprint will be very low and limited to periodic maintenance as detailed in the detailed Project Description.

A full summary of the impacts assessed is in **Att-C, Part 1, Section 7, pp 82-91**.

1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?

Yes

1.2.3 Is the proposed action the first stage of a staged development (or a larger project)?

Yes

1.2.5 Provide information about the staged development (or relevant larger project).

Powerlink has been engaged by Queensland Hydro to connect the proposed PHES facility at Borumba Dam to the existing transmission network. This will be achieved through the construction of two new high-voltage transmission lines, along with ancillary substation connections and augmentation works. The first project, which is the subject of this referral, is the Borumba to Halys Transmission Connection Project. The second project is the Borumba to Woolooga Transmission Connection Project.

These projects will support load growth, facilitate future renewable energy developments in the Wide Bay and Central Queensland regions, and provide access to high-quality generation resources in Southwest Queensland.

Although both transmission projects share a common connection point at the proposed Borumba PHES, they are designed to operate independently and are geographically distinct, extending approximately 100 km in opposite directions. The projects are at different stages of development, with the Borumba to Halys Transmission Connection Project scheduled to proceed first.

The proposed Borumba to Woolooga Transmission Connection Project will be referred to DCCEEW separately at a later stage.

1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

Environment Protection and Biodiversity Conservation Act 1999

It is recognised that where a proposed action is considered likely to have a significant impact on Matters of National Environmental Significance (MNES), it will need to be referred to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) for assessment in accordance with Significant Impact Guidelines 1.1 *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Assessments (desktop and field) of MNES values within the Project Area indicate the presence of the following MNES:

- Listed threatened species and communities
- Listed migratory species.

A significant impact assessment for these matters has been included as part of this referral.

Planning Act 2016

The *Planning Act 2016* (Planning Act) enables the planning minister to designate premises for the development of infrastructure prescribed within the Planning Regulation 2017 (Planning Regulation). Electricity operating works are a type of prescribed infrastructure under the Planning Regulation. The planning minister is the only State minister with authority to designate land for infrastructure. The Minister's Guidelines and Rules outlines the process for making Ministerial Infrastructure Designations (MID). The process provides infrastructure entities a streamlined, considered whole-of government response on a request for infrastructure.

Where a designation is made, all associated development becomes "accepted development" under the Planning Act. This means no Development Permits are required to facilitate any forms of development which are subject to the MID.

Section 35 of the Planning Act identifies that the Planning Regulation describes the types of infrastructure that may be designated by the Minister. Schedule 5, Part 2, Item 7 of the Planning Regulation identifies 'electricity operating works' as infrastructure which may be designated.

In order to make a designation under Section 36 of the Planning Act the Minister must be satisfied that adequate environmental assessment, including adequate consultation has been carried out in relation to the Project.

Where development and/or works are to be carried out that are not the subject of the MID, it will be necessary to obtain appropriate approvals and/or permits required under the Planning Act and subordinate legislation, including for example, local government planning schemes.

Nature Conservation Act 1992

The purpose of the Nature Conservation Act 1992 (NC Act) is the conservation of nature while allowing for the involvement of landholders and Indigenous people in the management of protected areas in which they have an interest under Aboriginal tradition or Island custom.

A framework is created under the NC Act for the dedication, declaration and management of protected areas, protection of wildlife and its habitat. The clearing regulatory requirements and the list of critically endangered, endangered, vulnerable or near threatened plants are contained in the Nature Conservation (Plants) Regulation 2020.

The clearing of native flora species and native fauna habitat protected under the NC Act. Detailed ecological field surveys have been undertaken to confirm the requirements of the NC Act, which may include protected plants permits.

***Nature Conservation Act 1992* - Authorisation for Infrastructure in Protected Areas Permit**

The proposed project will traverse Protected Areas under the *Nature Conservation Act 1992* (NC Act) and will require an Authorisation for Infrastructure in Protected Areas Permit as per Sections 34, 35, and 35a of the NC Act.

Under the NC Act, Department of Environment, Science and Innovation can grant a Permit on Protected areas, provided all of the following criteria are satisfied:

- The basic principle for the management of national parks will be observed to the greatest possible extent – if the land is in a national park (not relevant for this action)
- The use will be in the public interest
- The use is ecologically sustainable
- There is no reasonable alternative to the use.

Infrastructure on Protected Areas must be consistent with the management principles for the protected area and any management plan or statement for the area.

As the project progresses and understanding of impact areas is improved, Powerlink will also monitor the need to develop or comply with species management programs and clearing of protected plants under the NC Act.

***Forestry Act 1959* – Permit to Occupy Land in State Forest**

The Project will traverse State Forests dedicated under the *Forestry Act 1959* (Forestry Act). Pursuant to Section 35 of the Forest Act, Queensland Parks and Wildlife Service and Partnerships (QPWSP) within DESI can grant a Permit to Occupy land within a State Forest.

1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

Powerlink is committed to effective and genuine stakeholder and landholder engagement practices. Powerlink's activities are guided by a Community Engagement Strategy, Stakeholder Engagement Framework and the Transmission Easement Engagement Process which are underpinned by the key principles of integrity, openness, responsiveness, accountability and inclusiveness.

Powerlink has identified the following key stakeholders for the Project:

- Federal and State elected representatives
- Local governments, including Gympie Regional Council, Somerset Regional Council, South Burnett Regional Council, and Toowoomba City Council
- Relevant Aboriginal Parties
- Private landholders, including those both directly affected and adjacent to the Project
- HQ Plantations, Stanwell and other key commercial operators
- Stakeholder Reference Groups
- Local environment business and community groups
- The wider community.

Engagement during Corridor Selection process.

Since December 2021, Powerlink has shared information and gathered feedback for the Borumba Pumped Hydro Project transmission connections (regarding both the Borumba - Halys and Borumba - Woolooga transmission lines) via:

- 44 community information drop-in sessions, attended by more than 2,100 residents
- 6,989 Project update emails and 9,057 letters sent to landholders
- More than 594 digital and hardcopy feedback forms received
- 1,148 comments received and responded to on our online interactive map
- Phone calls and emails with landholders
- Meetings with local community groups and landholders
- Letterbox drops across the wider community in the South Burnett and Somerset areas
- Briefings with Stakeholder Reference Groups, Aboriginal Parties, state and local government officials, and representatives from a number of state government departments
- Selective site visits with Aboriginal Parties
- Social media channels, and advertisements in local newspapers and other publications, and radio stations
- More than 22,390 visits to the Project webpage.

The information and feedback gathered from these prior engagement activities has helped to inform Powerlink's corridor and site selection process, from a 4 km-wide draft study corridor, to the final alignment presented as part of this submission. The stakeholder engagement and public consultation activities to be undertaken as part of the statutory approvals processes, namely the EPBC Act referral and Ministerial Infrastructure Designation process are intended to build upon this prior engagement.

Key feedback during engagement

Throughout the corridor selection process, Powerlink sought feedback at various stages to help inform the refinement and selection of a final 1km-wide corridor. This included considerations into the physical land, environment and heritage values, social impacts, legislative requirements and technical input from Powerlink's design and construction teams in relation to constructability of transmission lines. Some of the key issues raised during consultation:

- Corridor alignment requests (to minimise property impacts)
- Biosecurity (including the control and prevention of invasive weeds and pests)
- Compensation
- Property accessibility

- Impacts to properties (including impact to farming operations, planned subdivisions and future builds).

Through Powerlink's ongoing engagement with landholders, 'corridor alignment' emerged as the most common feedback theme. This included areas that can be taken into consideration within the 1km-wide corridor and included proposed realignment of sections outside of the 1km-wide corridor. In response to the feedback received, Powerlink has made direct changes to the 1km-wide corridors taking into consideration:

- Business/farming impacts
- Environmental constraints
- Design and engineering constraints (e.g. steep terrain).
- Outcomes from corridor stakeholder consultation.

We have continued to keep in touch with landholders, Traditional Owner groups, other stakeholders and community members following the release of the final corridor through various channels. Our Landholder Relations Advisors have continued direct engagement with landholders through phone calls and pre-arranged meetings. Powerlink's Community Relations Team have also dedicated time to building relationships and connections with community groups and schools. More broadly, Powerlink has shared progress information through regular newsletter and website updates, fact sheets and brochures and through a podcast. Powerlink has attended community events to support and share information on the project including:

- South Burnett Powering Tomorrow Forum
- Nanango Campdraft
- Coolabunia Reef n Beef Fundraising evening
- South Burnett Music Awards
- Nanango Show
- Kingaroy Show
- Farm Fest
- Gympie Careers Expo
- GourMay Festival in Imbil
- Gympie Sustainability Festival
- Kilcoy Show
- Blackbutt Avo Festival.

1.3.1 Identity: Referring party

Privacy Notice:

Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

The Department of Climate Change, Energy, the Environment and Water (the department) collects your personal information (as defined by the Privacy Act 1988) through this platform for the purposes of enabling the department to consider your submission and contact you in relation to your submission. If you fail to provide some or all of the personal information requested on this platform (name and email address), the department will be unable to contact you to seek further information (if required) and subsequently may impact the consideration given to your submission.

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Alternatively, email us at privacy@awe.gov.au.

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1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	20093846925
Organisation name	AECOM AUSTRALIA PTY LTD
Organisation address	4006 QLD

Referring party details

Name	Emily Bright-Brady
Job title	Senior Environmental Engineer
Phone	(07) 3056 4800
Email	emily.bright-brady@aecom.com
Address	Level 8, 540 Wickham Street, FORTITUDE VALLEY QLD 4007

1.3.2 Identity: Person proposing to take the action

1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? *

No

1.3.2.2 Is Person proposing to take the action an organisation or business? *

Yes

Person proposing to take the action organisation details

ABN/ACN	82078849233
Organisation name	QUEENSLAND ELECTRICITY TRANSMISSION CORPORATION LIMITED
Organisation address	4014 QLD

Person proposing to take the action details

Name	Rouven Lau
Job title	Principal Development Manager Major Projects
Phone	0409 602 474
Email	rouven.lau@powerlink.com.au
Address	33 HAROLD STREET VIRGINIA QLD 4014

1.3.2.14 Are you proposing the action as part of a Joint Venture? *

No

1.3.2.15 Are you proposing the action as part of a Trust? *

No

1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

Powerlink is a Queensland Government Owned Corporation (GOC) that owns, operates and maintains the Queensland high voltage transmission network. Powerlink have total assets in excess of $10 billion (as at June 2024), comprising of the Queensland transmission network that extends 1,700km from the north of Cairns to the New South Wales border, and comprising of 15,449 circuit kilometres of transmission lines and 152 substations.

Powerlink has a formidable record of responsible environmental management. Powerlink is committed to the protection of the environment as it seeks to expand and upgrade its network to ensure reliable electricity supply and to progress renewable energy development.

Powerlink has not and is not currently subject to any Commonwealth, State or Local proceedings with respect to environmental impacts.

Powerlink has previously referred actions to the Department, see list below (note: this is not an exhaustive list):

- 2024/10025 Mount Isa Connection Project
- 2024/10065 Reid River to Hughenden 500 kilovolts (kV) Transmission Line
- 2024/10044 Calvale to Calliope River Transmission Line Reinforcement
- 2021-9060: Genex Kidston Connection Project
- 2011/5801: Paynes Road, Ebenezer - Construction of a Linesman Training Facility.
- 2010/5615: Springdale to Blackwall Transmission Line Project.
- 2010/5346: 275/132kV Transmission Line Replacement Project.
- 2009/5229: Construction of Calliope River 275kV and 132kV Bulk Supply Substation.
- 2009/4840: 275 kV Double-Circuit Transmission Line - Woolooga Substation and New Substation.
- 2008/4479: Larapinta to Algester Transmission Line and Larapinta Substation.
- 2008/4390: 275kV Transmission Line from Ross Substation to Strathmore Substation.
- 2007/3230: Spring Gully to Braemar High Voltage Transmission Line Development.

1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

Powerlink's Health, Safety and Environment Policy (Attachment B of this referral) emphasises the prevention or minimisation of harm to the environment as a core commitment. The policy outlines several key areas of focus to achieve its environmental objectives (Powerlink, 2024):

- Sustainable Decisions:
- Agile Delivery:
- Empowered People and Learning:
- Healthy and Engaged Workforce:
- Powerlink decisions are informed by data and insights. Powerlink considers the impacts and opportunities of their decisions on the environment and the reliability of their network. Powerlink builds collaborative partnerships to create a positive impact in the community and for their people.
- Powerlink are constantly adapting their systems to respond to the changing requirements and risks of their work. Powerlink's systems are relevant for their people to use. Powerlink focuses on improving the effectiveness of critical processes and controls in their work and builds resilience into their operations aligned with their commitment to their people, customers, contractors, communities and the environment.
- Powerlink trusts their people who are empowered to use their expertise and create improvements in their work. Powerlink takes every opportunity to learn, share and continuously improve how they work.
- Powerlink leads with genuine care for their people and wants everyone to go home safe and well every day. Powerlink creates a constructive and engaging workplace so that their people can thrive. Powerlink enable their people to make positive health and wellness choices at work and at home.

Powerlink systematically monitors its compliance obligations and business requirements related to the environment. It has systems in place to develop, resource, monitor, and continuously improve its environmental commitments and objectives. This includes planning, design, construction, operation, and maintenance of an electrically safe network.

1.3.3 Identity: Proposed designated proponent

1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

ABN/ACN	82078849233
Organisation name	QUEENSLAND ELECTRICITY TRANSMISSION CORPORATION LIMITED
Organisation address	4014 QLD

Proposed designated proponent details

Name	Rouven Lau
Job title	Principal Development Manager Major Projects
Phone	0409 602 474
Email	rouven.lau@powerlink.com.au
Address	33 HAROLD STREET VIRGINIA QLD 4014

1.3.4 Identity: Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN/ACN	20093846925
Organisation name	AECOM AUSTRALIA PTY LTD
Organisation address	4006 QLD
Representative's name	Emily Bright-Brady
Representative's job title	Senior Environmental Engineer
Phone	(07) 3056 4800
Email	emily.bright-brady@aecom.com
Address	Level 8, 540 Wickham Street, FORTITUDE VALLEY QLD 4007

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	82078849233
Organisation name	QUEENSLAND ELECTRICITY TRANSMISSION CORPORATION LIMITED
Organisation address	4014 QLD
Representative's name	Rouven Lau
Representative's job title	Principal Development Manager Major Projects
Phone	0409 602 474
Email	rouven.lau@powerlink.com.au
Address	33 HAROLD STREET VIRGINIA QLD 4014

Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details: Payment exemption and fee waiver

1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

1.4.3 Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

1.4.5 Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A?

No

1.4.7 Has the department issued you with a credit note? *

No

1.4.9 Would you like to add a purchase order number to your invoice? *

Yes

1.4.10 Enter purchase order number *

2121367

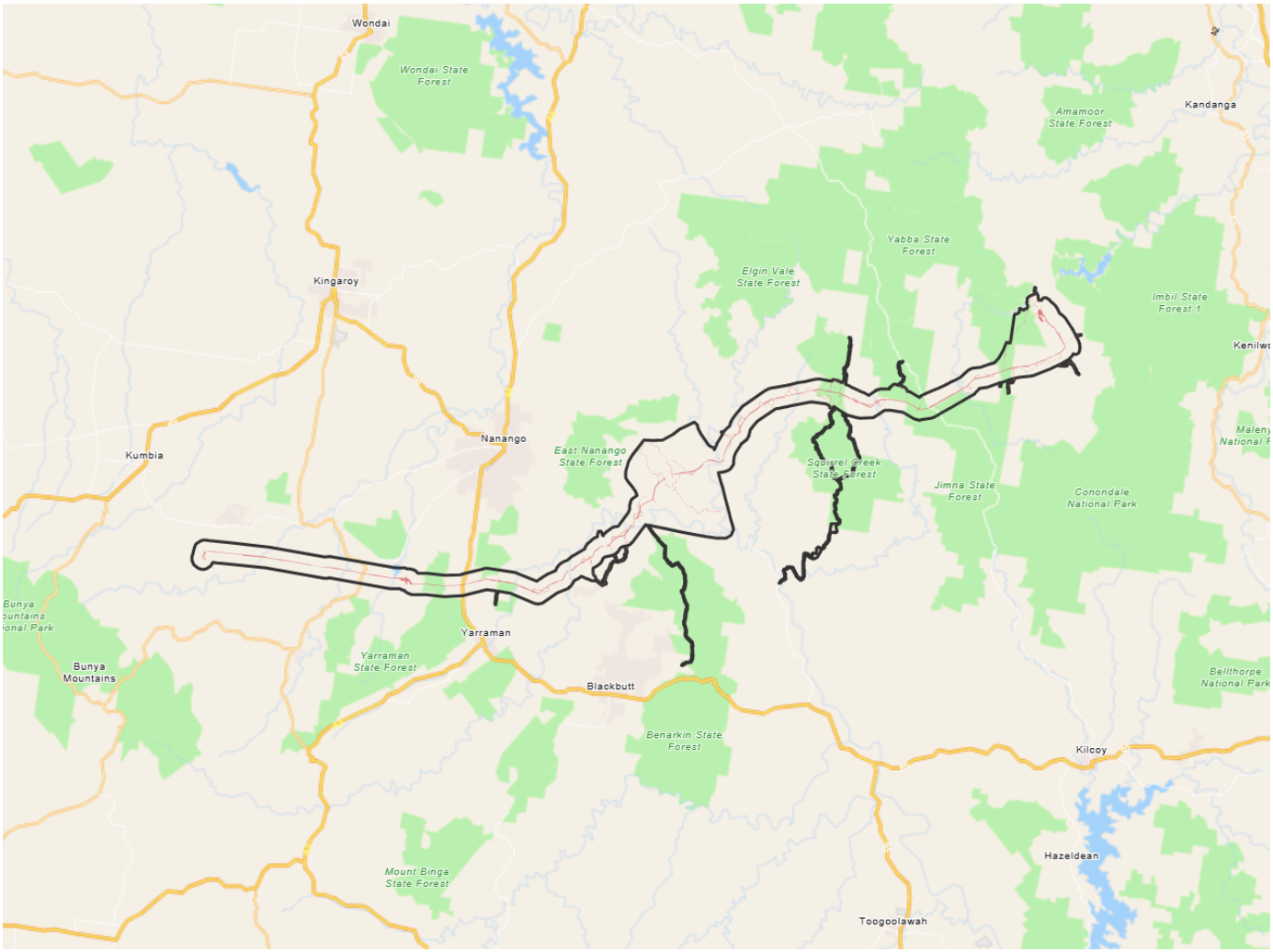
1.4 Payment details: Payment allocation

1.4.11 Who would you like to allocate as the entity responsible for payment? *

Person proposing to take the action

2. Location

2.1 Project footprint



Project Area: 28803.37 Ha **Disturbance Footprint:** 876.95 Ha

2.2 Footprint details

2.2.1 What is the address of the proposed action? *

Proposed substation at Borumba on Lot 16/LX1925 and Halys Substation Lot 100/SP265817

2.2.2 Where is the primary jurisdiction of the proposed action? *

Queensland

2.2.3 Is there a secondary jurisdiction for this proposed action? *

No

2.2.5 What is the tenure of the action area relevant to the project area? *

Land tenure across the Disturbance Footprint (including access tracks) includes freehold, reserve, State Forest, National Park (access tracks only), lands lease, Profit à Prendre, State Land and easement. The Disturbance Footprint currently traverses 110 properties and numerous easements, roads and watercourses.

The Disturbance Footprint includes approximately 66 km of greenfield corridor which will require new easements to accommodate the Project. The new easements will be up to 70 m wide. Sections of the Disturbance Footprint also pass through State Forests, National Park (access tracks only) and reserves and will require tenure approvals and occupation permits.

3. Existing environment

3.1 Physical description

3.1.1 Describe the current condition of the project area's environment.

The dominant land use within the Disturbance Footprint is pre-cleared agricultural land, characterised by pastoral or grazing properties for livestock production as well as the use of existing transmission easements and forestry plantation. The 875 ha Disturbance Footprint is made up of approximately 557 ha of non-remnant vegetation which includes pasture grassland with scattered eucalypts, pasture grassland with scattered stags and hoop pine plantation .

The Disturbance Footprint passes through several remnant vegetation areas, many of which are part of State forests, which include Yarraman State Forest, Diaper State Forest, Jimna State Forest, and Yabba State Forest, as well as being adjacent to, or impacting:

- South Nanango State Forest
- Gibson State Forest
- Mount Stanley Forest Reserve.

Existing access tracks proposed to be utilised for the Project traverse through an area of the newly gazetted Squirrel Creek National Park (Lot 344 on AP23882), and adjacent to the expanded Wrattens National Park (Lot 1 on AP23883), however the transmission alignment has been refined to avoid direct impacts to National Parks.

The Project Area is located entirely within the South-East Queensland (SEQ) Bioregion. The SEQ Bioregion shares a western boundary with the Brigalow Belt Bioregion, and extends from the New South Wales border, north to the dry coastal corridor between Gladstone and Rockhampton that forms part of the Brigalow Belt Bioregion. The McPherson Range is to the south of the Bioregion while the Great Dividing Range is to the west. There are ranges extending north south through the central region creating an altitudinal gradient from the coast. Small volcanic plugs remain in the landscape offering unique conditions for taxa. The SEQ Bioregion is biologically diverse due to major climatic overlaps and the east-west altitudinal gradient from the coast to the Great Dividing Range (Queensland Museum, 2003).

The Project Area consists of three subregions including (from east to west) South Burnett subregion, Brisbane – Barambah Volcanics, and the Burringbar – Conondale Ranges. The South Burnett subregion covers almost 50% of the Project Area to the west of the alignment.

3.1.2 Describe any existing or proposed uses for the project area.

The Project Area spans four local government areas: Gympie Regional Council, Somerset Regional Council, South Burnett Regional Council, and Toowoomba Regional Council. The majority lays within the Somerset and South Burnett Regional Council areas.

The primary land use mapped within the Project Area is agricultural land (grazing) which would continue to operate following establishment of the alignment. Powerlink works closely with impacted landholders to minimise disruption with sympathetic land uses for easements.

The proposed corridor also takes advantage of approximately 33 km of existing transmission corridor where the existing easement can be widened to accommodate the transmission infrastructure. Through this area, the corridor is directed through the existing Tarong Substation which is surrounded to the north and south by intensive mining and energy generation uses. Powerlink is engaging with adjacent businesses to minimise disruption.

Due to the connection required at the proposed Borumba PHES, the Project Area passes through Squirrel Creek National Park, Wrattens National Park, Diaper State Forest, Jimna State Forest and Yabba State Forest.

Through corridor selection, opportunities to transit through the narrowest sections of State Forest were identified, including consideration of adjacent remnant vegetation likely to have similar ecological values.

During the development of the corridor alignment, sections of Squirrel Creek Forest were converted to form the new Squirrel Creek National Park, and sections of Jimna State Forest and Yabba State Forest were also converted to National Park as part of an expansion to Wrattens National Park. Parts of the Disturbance Footprint for the alignment and access tracks had fallen within these new National Park boundaries. Further design development through these areas has been undertaken as a priority to avoid and reduce disturbance within these National Parks. Design development will continue to explore opportunities to reduce and mitigate impacts to habitat connectivity.

3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

Due to the connection required to the proposed Borumba PHES, the Project Area passes through Yarraman State Forest, Diaper State Forest, Jimna State Forest, and Yabba State Forest, as well as being adjacent to or impacting:

- South Nanango State Forst
- Gibson State Forest
- Mount Stanley Forest Reserve.

Existing access tracks proposed to be utilised for the Project are located in an area of the newly gazetted Squirrel Creek National Park (Lot 344 on AP23882), and adjacent to the expanded Wrattens National Park (Lot 1 on AP23883).

The State Forests and National Parks exist in a broader connected landscape linking nearby National Parks, with Statewide Biodiversity Corridors traversing between Wrattens National Park and Conondale National Park, Diaper State Forest and Squirrel Creek National Park, Nanango State Forest and Benarkin National Park.

The Project Area also contains biodiversity corridors attached to riparian areas of the upper reaches of the Brisbane River and Yabba Creek.

3.1.4 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The topography, geology, and soils across the Project Area are highly variable. While some parts of the terrain are rugged and relatively inaccessible, especially near the proposed Borumba PHES, other areas are easily reached via pre-existing roads or access tracks through previously disturbed paddocks. The elevation within the Project Area ranges significantly, from 625 metres (m) Australian Height Datum (AHD) to 170 m AHD.

3.2 Flora and fauna

3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

Flora

Flora diversity

The field surveys identified 451 flora species from 92 families. The dominant plant families recorded were Poaceae (60 species), followed by Myrtaceae (34 species) and Leguminosae (35 species). The complete flora species list for each survey for the Project is provided in **Att-C, Part 19, Appendix G, Table 27, pp 11-46.**

Threatened flora species

Three EPBC Act listed threatened flora species were recorded within the Survey Area:

- Waterfall plectranthus (*Coleus torrenticola* syn. *Plectranthus torrenticola*)
- Scrub turpentine (*Rhodamnia rubescens*) listed as Critically Endangered under the EPBC Act
- Austral toadflax (*Thesium australe*) listed as Vulnerable under the EPBC Act

One specimen of the Austral toadflax (*Thesium australe*) was recorded during flora surveys in the western portion of the Project Area. The scrub turpentine was recorded 15 times across the July 2024 and October-November 2024 surveys, all within the eastern portion of the Survey Area. From east to west, three scrub turpentine specimens were recorded in Diaper State Forest, six were recorded in Wrattens National Park (NP), two were recorded in Jimna State Forest, and four were recorded in the easternmost Borumba end (outside protected areas). Additional individuals of scrub turpentine were recorded in the April 2025 survey.

The waterfall plectranthus (*Coleus torrenticola*) was found within the Survey Area during past surveys in the area for Borumba PHES.

Locations of all EPBC Act listed threatened flora species detected during all survey periods to date are displayed in **Att-C, Part 2, Appendix A, Figure 6, pp 27-33.**

A Likelihood of Occurrence (LoO) assessment has been completed for all potential threatened flora species in the desktop searches. The complete LoO assessment is provided in **Att-C, Part 3, Appendix C, pp 47-70.**

Fauna

Fauna diversity

The field surveys recorded a total of 222 fauna species, comprising 141 birds, 50 mammals, 16 reptiles and 15 amphibians. The complete fauna species list is provided in **Att-C, Part 19 Appendix G, Table 27, pp 11-46.**

Threatened fauna species

Five EPBC Act listed threatened and migratory fauna species were recorded within the Survey Area, either directly or indirectly (scat, scratches, feed incisions) during the field surveys:

- Koala (*Phascolarctos cinereus*) listed as ‘endangered’ under the EPBC Act
- South-eastern glossy black-cockatoo (*Calyptorhynchus lathami lathami*) listed as ‘vulnerable’ under the EPBC Act
- Yellow-bellied glider (south-eastern) (*Petauroides australis australis*) listed as ‘vulnerable’ under the EPBC Act (indirect evidence only of ‘v’ incision feed mark on a sap feed tree)
- Greater glider (southern) (*Petauroides volans* (syn. *Petauroides armillatus*)) listed as ‘endangered’ under the EPBC Act
- Fork-tailed swift (*Apus pacificus*) listed as ‘migratory’ under the EPBC Act.

A total of 16 koalas were seen across the March, July and October-November 2024 and April 2025 survey periods. Sightings occurred predominantly in the eastern portion of the Survey Area, from Diaper State Forest through to the eastern-most end near Borumba, and mostly occurred in remnant/regrowth/vegetated

non-remnant areas, and/or along riparian corridors. Indirect evidence of koala presence (scratches or scat) were detected throughout the Survey Area in all survey periods, including in the Tarong section (September 2024 survey). One greater glider was observed during the April 2025 survey period. The individual was located within remnant forest along Borgan Road within the eastern extent of the Project Area. In addition, indirect evidence of a yellow-bellied glider ('v' feed mark incision) was observed on a *Eucalyptus biturbinata* feed tree, located on Borgan Road approximately 180 m north of the greater glider observation.

Three south-eastern glossy black-cockatoo individuals were sighted foraging in the July 2024 survey period within Diaper State Forest. A south-eastern glossy black-cockatoo was heard calling in the April 2025 survey within the Borumba Hydro Site. About 10 fork-tailed swifts were observed foraging above the canopy within the Survey Area in Yabba State Forest. The Mary River turtle was observed adjacent to the Survey Area in Yabba and Sandy Creeks during past surveys for the Borumba PHES.

One grey falcon was reportedly sighted outside the Survey Area approximately 5 km to the south, within Jimna SF. The species is generally known to be an arid specialist, while the habitat in the area is not considered arid based on the rainfall levels, vegetation types and terrain. Based on the distance from the Survey Area, the absence of the species' preferred habitat, the subsequent lack of reliable, recent records within at least 200 km of the Survey Area and lack of evidence from previous survey effort in the region, more data is required to confirm the presence of the species in this area. Moreover, there is a high likelihood that given the lack of suitable habitat, any grey falcon individuals occurring in the area are transitory individuals that will not persist in the area.

Bioacoustic monitoring primarily recorded calls for Koalas and powerful owls. Motion cameras did not detect any conservation significant fauna. Analysis of the ultrasonic bat call detectors from the April 2025 field surveys found a long-eared bat identified to the genus level (*Nyctophilus* sp.). No other threatened species or potentially threatened genera were detected by the ultrasonic detectors. A large colony of over 1000 grey-headed flying foxes (EPBC Act Vulnerable, NC Act Least Concern) was sighted over 19 km south of the Survey Area during the April 2025 field surveys. While the species was detected, it is not considered confirmed to occur based on the distance from the project.

Locations of all EPBC Act listed threatened fauna species detected during all survey periods to date are displayed in **Att-C, Part 2, Appendix A, Figure 7, pp 34-43**.

A Likelihood of occurrence assessment has been completed for all potential threatened and migratory fauna species in the desktop searches. MNES threatened and migratory fauna species assessed as possible, likely to occur or confirmed within the Survey Area include 16 birds, eight mammals, seven reptiles, two amphibians, one fish and one invertebrate. The complete LoO assessment is provided in **Att-C, Part 3, Appendix C, pp 47-70.**

Biosecurity

Introduced flora species

The field surveys recorded 71 introduced flora species, accounting for 17% of the species observed. Of the observed flora species, 7 were listed as Weeds of National Significance, and 14 were listed as *Biosecurity Act 2014* Category 3 restricted matter. Further details are provided in **Att-C, Part 1, Section 5.5.1 , pp 74.**

Introduced fauna species

The field surveys recorded 11 introduced fauna species, accounting for 5% of the species observed. Of the observed fauna species, six were listed as *Biosecurity Act 2014* Category 3, 4 and 6 restricted matters and one species was listed as a Category 3, 4, 5 and 6 restricted matters.

Introduced fauna species observed but are not state-listed include the wild horse (*Equus caballus**), cattle (*Bos taurus**), the brown hare (*Lepus capensis**) and the cane toad (*Rhinella marina**).

Additionally, other introduced fauna species are likely to occur in the region, but are not listed as restricted matter. Such species include but are not limited to the European fox (*Vulpes vulpes**), European brown hare (*Lepus europaeus**), the black rat (*Rattus rattus**) and the house mouse (*Mus musculus**).

Further details are provided in **Att-C, Part 1, Section 5.5.2, pp 72.**

3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

The dominant land use within the Disturbance Footprint is agricultural land, characterised by pastoral or grazing properties for livestock production as well as the use of existing transmission easements and forestry plantation. The 875 ha Disturbance Footprint is made up of approximately 557 ha of non-remnant vegetation which includes pasture grassland with scattered eucalypts, pasture grassland with scattered stags and hoop pine plantation.

Vegetation communities

The Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development (DNRMMRRD) Regional Ecosystem (RE) mapping (Version 12.2) was reviewed as part of the initial desktop assessment to determine the extent of REs across the Survey Area. The Survey Area was originally mapped as containing 41 Endangered, Of Concern and Least Concern remnant and high value regrowth regional ecosystems listed under the *Vegetation Management Act 1999* (VM Act), as well as non-remnant vegetation.

The field verified vegetation mapping undertaken for the Project includes the extent of vegetation types across the Survey Area only. Where the Disturbance Footprint extends beyond the available field-verified vegetation mapping due to footprint changes, the latest available state-mapped vegetation is used. For areas within the Survey Area that could not be accessed during the surveys, RE classification and extent was determined based on a combination of species observations of the ecologically dominant vegetation layer from a distance and extrapolation using aerial imagery.

Field-verified vegetation mapping was updated and refined during each subsequent field survey.

A total of 47 REs have been assessed, which is comprised of:

- 30 field-verified REs and non-remnant vegetation confirmed within the Survey Area
- 42 REs mapped within the Disturbance Footprint consisting of both field-verified vegetation and state-mapped REs where the footprint extends beyond the Survey Area.

The RE 12.9-10.17c is only present within the now-revised section of the concept alignment, where it curved around the north of Tarong Power Station. It does not occur within the current Survey Area that passes south of the Tarong Power Station.

Field-validated REs within the Survey Area have been grouped into broad vegetation communities where they share similar species, vegetation structure, geology and/or topographical location. These vegetation communities are described in **Att-C, Part 1, Section 5.2, pp 50**, along with the rough location along the Survey Area, a summary of the vegetation composition and representative site images (where available). Non-remnant communities recorded during the field surveys are also described. The mapped extent of each vegetation community within the Survey Area is shown in **Att-C, Part 1, Appendix A, Figure 3, pp 118-122, Part 2, pp 1-2**.

Threatened Ecological Communities (TEC)

Ten TECs listed Endangered or Critically Endangered under the EPBC Act were identified in the 20 km radius PMST search. Seven TECs were considered unlikely to occur based on the absence of analogous vegetation consistent with these TECs within the Survey Area. Three were considered potential and therefore the subject of targeted survey effort:

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland (EPBC Act Status: Critically Endangered)
    - Considered unlikely to occur based on the field surveys, since the surveyed patches did not contain the required assemblage of native species listed in the key diagnostic characteristics for this TEC.
- Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions (Subtropical eucalypt floodplain TEC) (EPBC Act Status: Endangered)

    - Considered unlikely to occur within the Survey Area based on the field surveys, since the surveyed patches did not meet the key diagnostic characteristics for this TEC.
- Lowland Rainforest of Subtropical Australia (Lowland Rainforest TEC) (EPBC Act Status: Critically Endangered).
    - The field surveys confirmed the presence of the Critically Endangered Lowland Rainforest of Subtropical Australia TEC within the Survey Area associated with RE 12.12.16.

The assessment of the potentially occurring TECs against their diagnostic criteria is detailed in **Att-C, Part 1, Section 4.3.1.2, pp 30-37**.

Two patches of the Lowland Rainforest TEC are confirmed, totalling approximately 1.2 ha of the Survey Area. These patches are considered confirmed to occur because they met the required key diagnostic conditions for this TEC. While complete floristic surveys could not be completed in the field for the northern patch due to limited access, the patch coincides with the confirmed TEC mapped in the Borumba PHES and is therefore considered confirmed.

The assessment of Lowland Rainforest TEC's against the diagnostic criteria is summarised in **Att-C, Part 1, Section 5.2.1, pp 63**.

Surface geology and land zones

The DNRMMRRD Moreton regional surface geological mapping (2004) identified the Survey Area to contain 15 different geology units (Department of Natural Resources Mines and Energy, 2020). The geology units that dominate the Survey Area are described in **Att-C, Part 1, Section 5.1.2, pp 48-49**.

Land zones are categories that describe the major geologies, the associated landforms and geomorphic processes in Queensland, and are a critical component of the RE classification scheme. Land zones have been delineated across the Survey Area based on the available surface geology mapping and the field verified RE within the area. Seven land zones have been identified and are broadly consistent with the surface geology mapping. Definitions are consistent with (Wilson and Taylor, 2012). The land zones within Survey Area are described in **Att-C, Part 1, Section 5.1.2, pp 48-49**.

3.3 Heritage

3.3.1 Describe any Commonwealth Heritage Places Overseas or other places recognised as having heritage values that apply to the project area.

All relevant non-Aboriginal cultural heritage databases at local, State and Commonwealth level have been searched. There are no known non-Aboriginal Commonwealth heritage places within the Disturbance Footprint. Other places of potential non-Aboriginal heritage significance have been identified in the Project Area which would be managed under relevant state heritage legislation where required.

All relevant Aboriginal cultural heritage databases at local, State and Federal level have been searched. There are no Aboriginal cultural heritage values of Commonwealth significance located within the Disturbance Footprint. All Aboriginal cultural heritage matters are being managed in consultation with the relevant Aboriginal Parties via cultural heritage management agreements in accordance with the relevant Aboriginal cultural heritage legislation.

3.3.2 Describe any Indigenous heritage values that apply to the project area.

There are two Aboriginal Parties within the Disturbance Footprint, the Wakka Wakka Native Title Aboriginal Corporation (WWNTAC) and the Kabi Kabi People Aboriginal Corporation (KKPAC). WWNTAC and KKPAC are Aboriginal Parties under the *Queensland Aboriginal Cultural Heritage Act 2003* (the Act). There is also an area within the Disturbance Footprint where there is no Aboriginal Party. The area where there is no Aboriginal Party will be subject to a voluntary Cultural Heritage Management Plan by Powerlink under S.83 of the Act so that notifications can be sent as per S.91of the Act to give interested parties the opportunity to register their interest to become an endorsed Aboriginal Party for that area of the project.

Powerlink is in the process of negotiating Cultural Heritage Management Agreements (CHMA's) with the WWNTAC and KKPAC. These CHMA's will determine arrangements for cultural heritage due diligence reports and cultural heritage surveys of the project area. Consultations with WWNTAC and KKPAC is well advanced with finalisation of cultural heritage surveys and reports expected late 2026.

3.4 Hydrology

3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

The Project Area is located across the upper portions of the Burnett, Brisbane and Mary River Catchments. The Burnett and Mary Catchment flow approximately over 200 km north to discharge near Bundaberg and Hervey Bay respectively. The Brisbane catchment flows approximately over 150 km south to discharge at Brisbane.

Watercourse mapping reviewed include the Watercourse Identification Mapping (WIM), which identifies features that are protected and managed under the *Water Act 2000* (Water Act), as well as the *Vegetation Management Act 1999* (VM Act) watercourse and drainage feature mapping (1:100,000 and 1:250,000). Wetland mapping reviewed included the DETSI Queensland Wetland mapping and the Vegetation Management Wetland mapping.

Several major VM Act watercourses, their tributaries, and drainage features are present within the Survey Area, forming part of the Burnett River, Brisbane River, and Mary River basins. Stream Orders varied from 1 to 6.

Twelve WIM watercourses are mapped within the Survey Area and include (from east to west): Sandy Creek and its unnamed tributary, Yabba Creek, Brisbane River, Paradise Creek, Cooyar Creek, Yarraman Creek, Rocky Creek, Meandu Creek, Tanduringie Creek, Middle Creek and Barker Creek. Multiple drainage features intersect the Survey Area and include tributaries of the above watercourses, located at Tarong and further west as well as in the easternmost extent of the Survey Area.

Major VM Act waterways and their tributaries include (from east to west): Sandy Creek, Capsize Creek, Yabba Creek, Gum Creek, Middle Creek, Monsildale Creek, Avoca Creek, Sugarbag Creek, Brisbane River, Flagstone Creek, Paradise Creek, Kiss Creek, Cooyar Creek, Yarraman Creek, Rocky Creek, Meandu Creek, Tanduringie Creek, Spitters Gully, Middle Creek, Barker Creek and Oaky Creek.

These waterways provide habitat for aquatic and semi aquatic species, including EPBC Act listed threatened species such as fish and turtles. Riparian and floodplain vegetation provides habitat for threatened flora and fauna species, as well as terrestrial wildlife corridors.

State-mapped Queensland Wetland Areas and VM Act Wetlands are present within the Survey Area, associated with the Middle Creek floodplain (west of Tarong). This was field verified as RE 12.3.8 (Vegetation Community 3. Additional Queensland Wetland mapping is located near Tarong associated with Meandu Creek Dam (lacustrine wetland).

There are limited registered water level water monitoring bores near the Project Area, with the closest two being near Meandu Creek (RN 13620308) and Tanduringie Creek (RN 13620355). They report groundwater levels between 4.5 m and 15 m below the natural surface. No proximate water level monitoring bores are registered in the eastern reaches of the Project Area.

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

EPBC Act section	Controlling provision	Impacted	Reviewed
S12	World Heritage	No	Yes
S15B	National Heritage	No	Yes
S16	Ramsar Wetland	No	Yes
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	Yes	Yes
S21	Nuclear	No	Yes
S23	Commonwealth Marine Area	No	Yes
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	No	Yes
S26	Commonwealth Land	No	Yes
S27B	Commonwealth Heritage Places Overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No World Heritage places are located within the Project Area. The nearest World Heritage places are the K'gari (Fraser Island) and Gondwana Rainforest of Australia. They are situated approximately 100 km north and 120 km south of the Project Area respectively. The proposed action is not anticipated to result in any direct or indirect impacts on these places due to geographical separation.

4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No National Heritage places are located within the Project Area. The nearest National Heritage place is the Glass House Mountains National Landscape located 40 km to the south-east of the Project Area. The Project will not interfere with and is not found within this National Heritage Place.

4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Ramsar wetland
No	No	Moreton Bay

4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.3.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No Wetlands of International Importance (Ramsar wetlands) are located within the Project Area. The PMST identifies the Project Area as being 50-100 km upstream of two Ramsar wetlands, Great Sandy Strait (including Great Sandy Strait, Tin Can Bay and Tin Can Inlet) and Moreton Bay. The Project will not have a direct impact on these wetlands.

Indirect impacts to these areas are considered unlikely due to the separation of the action from these areas and the nature of the work proposed. The Project Area sits across the upper catchment limits of the Mary River and Brisbane River catchments which discharge to the Great Sandy Strait and Moreton Bay, respectively. The Brisbane River discharge point, located approximately 220 km downstream from the Project Area, passes through Lake Wivenhoe. The Hervey Bay discharge point, approximately 203 km downstream, has the potential for upstream passage through Borumba Dam. However, large dams are located between the Project Area and the outlet of these drainage systems, the Borumba Dam for the Mary River and Lake Wivenhoe for the Brisbane River. All activities as part of this Project are therefore unlikely to have a significant influence on water quality or flow regimes beyond these dams.

4.1.4 Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

Direct impact	Indirect impact	Species	Common name
No	No	Anomalopus mackayi	Five-clawed Worm-skink, Long-legged Worm-skink
No	No	Anthochaera phrygia	Regent Honeyeater
No	No	Arthraxon hispidus	Hairy-joint Grass
Yes	Yes	Bosistoa transversa	Three-leaved Bosistoa, Yellow Satinheart
No	No	Botaurus poiciloptilus	Australasian Bittern
No	No	Cadellia pentastylis	Ooline
No	No	Calidris acuminata	Sharp-tailed Sandpiper
No	No	Calidris ferruginea	Curlew Sandpiper
Yes	Yes	Calyptorhynchus lathami lathami	South-eastern Glossy Black-Cockatoo
No	No	Chalinolobus dwyeri	Large-eared Pied Bat, Large Pied Bat
No	No	Climacteris picumnus victoriae	Brown Treecreeper (south-eastern)
No	No	Coeranoscincus reticulatus	Three-toed Snake-tooth Skink
No	No	Coleus nitidus	Nightcap Plectranthus, Silver Plectranthus
No	No	Coleus omissus	
Yes	Yes	Cossinia australiana	Cossinia
No	No	Cryptostylis hunteriana	Leafless Tongue-orchid
No	No	Cupaniopsis shirleyana	Wedge-leaf Tuckeroo
No	No	Cyclopsitta diophthalma coxeni	Coxen's Fig-Parrot
No	No	Dasyurus hallucatus	Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu]
No	No	Dasyurus maculatus maculatus (SE mainland population)	Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)

Direct impact	Indirect impact	Species	Common name
No	No	Delma torquata	Adorned Delma, Collared Delma
No	No	Denhamia parvifolia	Small-leaved Denhamia
No	No	Dichanthium setosum	bluegrass
No	No	Egernia rugosa	Yakka Skink
Yes	Yes	Elseya albagula	Southern Snapping Turtle, White-throated Snapping Turtle
Yes	Yes	Elusor macrurus	Mary River Turtle, Mary River Tortoise
No	No	Erythrotriorchis radiatus	Red Goshawk
Yes	Yes	Euastacus hystricosus	Conondale Spiny Crayfish
No	No	Eucalyptus taurina	Helidon Ironbark
No	No	Falco hypoleucos	Grey Falcon
No	No	Fontainea venosa	
Yes	Yes	Furina dunmalli	Dunmall's Snake
Yes	Yes	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
Yes	Yes	Geophaps scripta scripta	Squatter Pigeon (southern)
Yes	Yes	Grantiella picta	Painted Honeyeater
Yes	Yes	Haloragis exalata subsp. velutina	Tall Velvet Sea-berry
No	No	Hemiaspis damelii	Grey Snake
Yes	Yes	Hirundapus caudacutus	White-throated Needletail
No	No	Lathamus discolor	Swift Parrot
No	No	Lepidium peregrinum	Wandering Pepper-cress
No	No	Leuzea australis	Austral Cornflower, Native Thistle
Yes	Yes	Macadamia integrifolia	Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak
Yes	Yes	Macadamia ternifolia	Small-fruited Queensland Nut, Gympie Nut
No	No	Macroderma gigas	Ghost Bat
No	No	Mixophyes fleayi	Fleay's Frog

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Mixophyes iteratus	Giant Barred Frog, Southern Barred Frog
Yes	Yes	Neoceratodus forsteri	Australian Lungfish, Queensland Lungfish
No	No	Notelaea lloydii	Lloyd's Olive
No	No	Nyctophilus corbeni	Corben's Long-eared Bat, South-eastern Long-eared Bat
No	No	Paspalidium grandispiculatum	a grass
No	No	Persicaria elatior	Knotweed, Tall Knotweed
Yes	Yes	Petauroides volans	Greater Glider (southern and central)
Yes	Yes	Petaurus australis australis	Yellow-bellied Glider (south-eastern)
No	No	Petrogale penicillata	Brush-tailed Rock-wallaby
Yes	Yes	Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)	Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)
Yes	Yes	Phebalium distans	Mt Berryman Phebalium
No	No	Phyllodes imperialis smithersi	Pink Underwing Moth
No	No	Picris evae	Hawkweed
Yes	Yes	Plectranthus torrenticola	
No	No	Polianthion minutiflorum	
Yes	Yes	Potorous tridactylus tridactylus	Long-nosed Potoroo (northern)
No	No	Pseudomys novaehollandiae	New Holland Mouse, Pookila
Yes	Yes	Pteropus poliocephalus	Grey-headed Flying-fox
Yes	Yes	Rhodamnia rubescens	Scrub Turpentine, Brown Malletwood
No	No	Rhodomyrtus psidioides	Native Guava
No	No	Rostratula australis	Australian Painted Snipe
No	No	Samadera bidwillii	Quassia
Yes	Yes	Sarcochilus weinthalii	Blotched Sarcochilus, Weinthals Sarcanth
Yes	Yes	Sophora fraseri	
No	No	Stagonopleura guttata	Diamond Firetail

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Thesium australe	Austral Toadflax, Toadflax
Yes	Yes	Turnix melanogaster	Black-breasted Button-quail

Ecological communities

Direct impact	Indirect impact	Ecological community
No	No	Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland
Yes	Yes	Lowland Rainforest of Subtropical Australia
No	No	Poplar Box Grassy Woodland on Alluvial Plains
No	No	Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions
No	No	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland

4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

The greatest risk of potential impact on threatened species and ecological communities from the Project will occur during the construction phase. The construction activities to support the installation of substation, transmission towers, associated lines and access tracks will involve vegetation clearing, excavation and ground reinstatement.

The worst-case scenario extent of direct and indirect impacts to each likely or confirmed to occur MNES are detailed below. This is assessed based on full clearing within the Disturbance Footprint which is likely an over-representation of the clearing required for the Project due to conservatism within the Disturbance Footprint. Opportunities to minimise the direct and indirect impacts through future design and mitigation are discussed in **Section 4.1.4.10 of this Referral Form**

Direct and indirect impacts potentially associated with the Project are described in further detail in **Att-C, Part 1, Section 7.0, pp 82-91.**

Vegetation clearing is the main direct impact from the Project that results in the loss of vegetation values and habitat, with the severity of impacts more pronounced in areas that provide values for conservation significant species and communities. Potential direct and impacts resulting from clearing native vegetation and other construction activities can include:

- Direct mortality and injury to fauna during vegetation clearing and construction activities.
- Reduced patch size of vegetation communities potentially compromising the viability of the community and associated habitat.
- Loss of habitat causing a reduction of biological diversity or loss of local populations and genotypes.
- Increase in edge effects, leading to fragmentation, increase in light, noise and vibration penetration and disturbance, changes to predation viability, alterations in microclimates, and increased weed/pest incursion.
- Loss of floristic diversity and the food resources this provides such as foliage, flowers, nectar, fruit and seeds.
- Fragmentation of habitats resulting in reduced dispersal opportunities for fauna and increased risk of predation.
- Destruction of abiotic features necessary to support vegetation communities and habitat types.
- Direct displacement of fauna from the Disturbance Footprint, an overall reduction in fauna diversity and/or loss of local populations
- Loss, or reduced availability, of microhabitat features (e.g. leaf litter, ground timber, dense shrubs) and/or important habitat features (e.g., tree hollows, recognised forage trees) for threatened and migratory species which rely on the availability of nesting, foraging, breeding and shelter habitat for survival.
- Erosion, sediment runoff and alteration to hydrology, leading to the loss of topsoil and exposure of subsoil, changes to water quality and nutrient levels, and watercourse turbidity.
- Generation and deposition of airborne dust, sand and soil as well as environmental spills may have potential impacts on vegetation and watercourses.

The list below details the worst-case scenario extent of clearing impacts to each likely or confirmed to occur MNES separated by their habitat utilisation. It is noted that not all areas within the Disturbance Footprint have been field validated, however a conservative and precautionary approach has been implemented in the mapping of potential MNES and calculating impact areas.

Clearing impacts on MNES (Conservation status under the EPBC Act: CE=Critically Endangered; E=Endangered; V=Vulnerable and Mi=Migratory):

- Threatened Ecological Communities
    - Lowland Rainforest of Subtropical Australia TEC (CE) - Confirmed to occur
        - 0.08 ha of habitat
- Flora
    - Scrub turpentine (*Rhodamnia rubescens*) (CE) - Confirmed to occur

        - Known habitat utilisation - 1.4 ha
        - Potential habitat utilisation - 119.8 ha
    - Austral toadflax (*Thesium australe*) (V) - Confirmed to occur
        - Potential habitat utilisation - 139.1 ha
        - Potential - regrowth habitat utilisation - 29.40 ha
    - Three-leaved bosistoa (*Bosistoa transversa*) (V) - Likely to occur
        - Potential habitat utilisation - 14.0 ha
    - Waterfall plectranthus (*Coleus torrenticola*) (V) - Likely to occur
        - Potential habitat utilisation - 91.6 ha
    - Cossinia (*Cossinia australiana*) (E) - Likely to occur
        - Potential habitat utilisation - 14.0 ha
    - Rough raspweed (*Haloragis exalata subsp. velutina*) (V) - Likely to occur
        - Potential habitat utilisation - 230.0ha
    - Macadamia nut (*Macadamia integrifolia*) (V) - Likely to occur
        - Potential habitat utilisation - 14.0 ha
    - Bopple nut (*Macadamia ternifolia*) (V) - Likely to occur
        - Potential habitat utilisation - 14.0 ha
    - Mt Berryman phebalium (*Phebalium distans*) (E) - Likely to occur
        - Potential habitat utilisation - 14.0 ha
    - Blotched sarcochilus (*Sarcochilus weinthalii*) (V) - Likely to occur
        - Potential habitat utilisation - 14.0 ha
    - Brush sophora (*Sophora fraseri*) (V) - Likely to occur
        - Potential habitat utilisation - 207.1 ha
- Fauna
    - South-eastern glossy black-cockatoo (*Calyptorhynchus lathami lathami*) (V) - Confirmed to occur
        - Breeding habitat utilisation - 69.7 ha
        - Breeding/Foraging habitat utilisation - 72.6 ha
        - Foraging - 9.0 ha
    - Koala (*Phascolarctos cinereus*) (E) - Confirmed to occur
        - Breeding habitat utilisation - 11.4 ha
        - Foraging habitat utilisation - 254.6 ha
        - Potential dispersal habitat utilisation – 609.3 ha
    - Latham's snipe (*Gallinago hardwickii*) (V) - Likely to occur
        - Foraging/Dispersal habitat utilisation - 7.3 ha
    - Squatter pigeon (southern) (*Geophaps scripta scripta*) (V) - Likely to occur
        - Breeding habitat utilisation - 31.7 ha
        - Foraging habitat utilisation - 8.2 ha
        - Dispersal habitat utilisation - 4.7 ha
    - Painted honeyeater (*Grantiella picta*) (V) - Likely to occur
        - Foraging/Dispersal habitat utilisation - 14.2 ha
    - White-throated needletail (*Hirundapus caudacutus*) (V) - Likely to occur
        - May occupy any aerial habitat over the Project Area
    - Black-breasted buttonquail (*Turnix melanogaster*) (V) - Likely to occur
        - Breeding/Foraging/Dispersal habitat utilisation - 14.0 ha
    - Greater glider (southern & central) (*Petauroides volans*) (E) - Likely to occur
        - Breeding/Foraging habitat utilisation - 264.3 ha
        - Dispersal habitat utilisation - 32.3 ha
    - Yellow-bellied glider (south-eastern) (*Petaurus australis australis*) (V) - Likely to occur
        - Breeding/foraging habitat utilisation – 266.0 ha
        - Dispersal habitat utilisation - 19.1 ha
    - Long-nosed potoroo (northern) (*Potorous tridactylus tridactylus*) (V) - Likely to occur

        - Breeding/Foraging habitat utilisation - 189.2 ha
        - Dispersal habitat utilisation - 17.1 ha
    - Grey-headed flying-fox (*Pteropus poliocephalus*) (V) - Likely to occur
        - Breeding habitat utilisation - 37.4 ha
        - Foraging habitat utilisation - 182.0 ha
    - Conondale spiny crayfish (*Euastacus hystricosus*) (E) - Likely to occur
        - Breeding/Foraging/Dispersal habitat utilisation - 3.3 ha
    - Mary River turtle (*Elusor macrurus*) (CE) - Likely to occur
        - Potential habitat utilisation - 1.8 ha
    - Southern snapping turtle (*Elseya albagula*) (CE) - Likely to occur
        - Breeding/Foraging/Dispersal habitat utilisation - 4.3 ha
    - Dunmall's snake (*Furina dunmalli*) (V) - Likely to occur
        - Breeding/Foraging/Dispersal habitat utilisation - 43.9 ha
    - Giant barred frog (*Mixophyes iteratus*) (V) - Likely to occur
        - Breeding/foraging habitat utilisation - 29.6 ha
        - Dispersal habitat utilisation - 0.1 ha
    - Australian lungfish (*Neoceratodus forsteri*) (V) - Likely to occur
- Potential habitat utilisation - 4.3 haMigratory
    - Fork-tailed swift (*Apus pacificus*) (Mi) - Confirmed to occur
        - May occupy any aerial habitat over the Project Area

Potential impacts on MNES values during the operation and maintenance phase will include permanent loss of habitat, persisting habitat fragmentation, edge effects, potential entanglement on barbed wire fencing and electrocution on powerlines. Activity within the Disturbance Footprint will be very low and limited to periodic maintenance as detailed in **Att-A, Part 1 Section 3.3, pp 35.**

Easement vegetation management is important to ensure the safe operation of the transmission line. Vegetation management is undertaken in accordance with Powerlink's standards and procedures and will including:

- Mechanical
- Hand clearing
- Chemical (herbicides).

The technique adopted for each area takes into account a number of issues such as landholder requirements, planned burn activities, type of regrowth, terrain and the local environmental conditions.

4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

Yes

4.1.4.5 Describe why you consider this to be a Significant Impact. *

Significant impact assessments have been undertaken for 30 confirmed or likely to occur 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, relevant criteria and supporting documents are detailed in **Att-C, Part 3, Appendix E, pp 82-248**. The significant impact assessments identified that four species are likely to be significantly impacted, eight species are possible to be significantly impacted, and 18 species and one TEC are unlikely to be significantly impacted.

Findings of the assessments determined possible and likely significant impacts on the following MNES listed threatened species as a result of the Project activities:

- Critically Endangered:
  - Mary River turtle (*Elusor macrurus*) - Possible significant impact
  - Southern snapping turtle (*Elseya albagula*) - Possible significant impact
  - Scrub turpentine (*Rhodamnia rubescens*) - Possible significant impact
- Endangered:
  - Koala (combined QLD, NSW, ACT) (*Phascolarctos cinereus*) - Likely significant impact
  - Greater glider (southern & central) (*Petauroides volans (syn. Petauroides armillatus*)) - Likely significant impact
- Vulnerable:
  - South-eastern glossy black-cockatoo (*Calyptorhynchus lathami lathami*) - Possible significant impact
  - Dunmall's snake (*Furina dunmalli*) - Possible significant impact
  - Painted honeyeater (*Grantiella picta*) - Possible significant impact
  - Yellow-bellied glider (south-eastern) (*Petaurus australis australis*) - Possible significant impact
  - Long-nosed potoroo (northern) (*Potorous tridactylus tridactylus*) - Possible significant impact
  - Grey-headed flying-fox (*Pteropus poliocephalus*) - Likely significant impact
  - Black-breasted buttonquail (*Turnix melanogaster*) - Likely significant impact

4.1.4.7 Do you think your proposed action is a controlled action? *

Yes

4.1.4.8 Please elaborate why you think your proposed action is a controlled action. *

The Project is considered likely to be a controlled action due to the likely and possible significant impacts to MNES listed threatened species.

4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

Mitigation measures

Powerlink has implemented the hierarchy of management principles in the planning for and development of the Project. These principles and the order in which they have been applied is as follows.

1. Avoid: locating activities to avoid direct and indirect impacts on MNES.
2. Minimise: minimising direct and indirect impacts where they cannot be completely avoided.
3. Mitigate: implementing mitigation and management measures to reduce direct, indirect and cumulative impacts.
4. Remediate and rehabilitate: actively remediate and rehabilitate impacted areas to promote long-term recovery.
5. Offset (where necessary): provide suitable offsets for activities that result in significant residual impacts to MNES even with the implementation of the above principles.

Avoidance

The avoidance of MNES values has been considered through the corridor selection and concept design phases to date. The corridor selection process considered a combination of community feedback, physical land, environment and heritage values, social impacts, legislative requirements and technical input from Powerlink in relation to constructability to identify a 1 km-wide corridor for further detailed assessment to locate the concept alignment.

Through corridor selection, opportunities to transit through the narrowest sections of State Forest were identified, including consideration of adjacent remnant vegetation likely to have similar ecological values. Further design development also avoided the corridor traversing the newly gazetted National Parks and utilising only existing access tracks within them. As design progress it will be a priority for understanding opportunities to reduce impacts and mitigate impacts to habitat connectivity. Opportunities to co-locate with existing infrastructure were also identified to reduce the introduction of new corridors through biodiversity corridors.

Further development of the concept alignment and associated Disturbance Footprint has considered opportunities to avoid clearing through spans where Powerlink's safety, reliability and operational requirements could be easily met during all phases through the Project.

The section of the alignment between Halys and Tarong Substations will be partially located within previously cleared, existing transmission easements. Co-locating the Project within these transmission easements maximises the use of areas that have already been cleared and potentially allows for MNES values that are highly sensitive to disturbance to be avoided (as they are unlikely to occur in the area in the first place).

Where practical, structures will not be located 50 m from watercourses. Where the transmission line crosses watercourses, previously cleared tracks for existing crossings will be preferentially used to limit the extent of vegetation clearing.

Full clearance of a 70 m easement was originally proposed to ensure Powerlink's safety, reliability and operational requirements could be easily met during all phases of the Project, for an approximately 99 km corridor, full clearing would represent a cleared easement of approximately 686 ha. However, to reduce the impacts to MNES, Powerlink have gone through an impact minimisation process through review of transmission line design in relation to existing vegetation to reduce the amount of vegetation required to be removed to safely construct, operate and maintain the transmission line. The base case uses the preliminary line design and LiDAR to establish areas where vegetation removal would be required to accommodate the transmission infrastructure. The base case reduces the footprint required for the transmission line itself to approximately 613 ha from a potential 686 ha.

The access tracks that would otherwise be a more substantial component of the Disturbance Footprint have been preferentially located, where possible, to utilise existing access routes or to align with areas that are already likely to be impacted by the proposed transmission infrastructure, minimising additional disturbance. The predicted disturbance footprint of the current access track design, beyond the disturbance footprint of the transmission lines, is approximately 215 ha.

Powerlink is seeking to reduce superfluous impacts to vegetation for ancillary activities such as laydown areas to support construction. Where possible, these activities will be located previously disturbed areas, aligned to existing tracks or a preferentially placed in locations where the proposed transmission infrastructure would require clearing.

In considering these options, further direct impact to habitat and habitat fragmentation impacts are minimised as the areas affected are already impacted by edge effects.

In considering siting selection and concept design refinement, the disturbance footprint that relates to potential removal of remnant or HVR vegetation is limited to approximately 316 ha, with 557 ha of the disturbance footprint situated over non-remnant areas.

Through future design stages and refinement, a reduction through sensitive areas may be possible.

Minimise

Development of the Project within the Disturbance Footprint will occur progressively and in phases. By doing this, only a subset of the Disturbance Footprint will be impacted at one time. Indirect impacts resulting from the construction of the Project will be localised and temporary, and actively managed as detailed below. Direct impacts to MNES will be minimised where possible including through micro-siting.

Mitigation and management

To mitigate impacts to potentially occurring MNES values, an Environmental Management Plan (EMP) has been developed for the Project which contains detailed mitigation measures for potential environmental impacts as a result of Project activities. Species-specific mitigation and management measures have also been developed. The Project EMP has been provided as **Attachment D** to this referral. Further details on these measures are outlined in **Att-C, Part 1, Section 8.3, pp 93-99**.

Offset

Where required, Powerlink are committed to providing suitable offsets for activities that result in significant residual impacts to MNES.

4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

Where required, Powerlink are committed to providing suitable offsets for activities that result in significant residual impacts to MNES. A Draft Offsets Framework will be developed for the Project to address significant residual impacts.

4.1.5 Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Species	Common name
No	No	Actitis hypoleucos	Common Sandpiper
Yes	Yes	Apus pacificus	Fork-tailed Swift
No	No	Calidris acuminata	Sharp-tailed Sandpiper
No	No	Calidris ferruginea	Curlew Sandpiper
No	No	Calidris melanotos	Pectoral Sandpiper
No	No	Crocodylus porosus	Salt-water Crocodile, Estuarine Crocodile
No	No	Cuculus optatus	Oriental Cuckoo, Horsfield's Cuckoo
Yes	Yes	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
Yes	Yes	Hirundapus caudacutus	White-throated Needletail
No	No	Motacilla flava	Yellow Wagtail
No	No	Pandion haliaetus	Osprey

4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.5.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

The Project Area has one MNES migratory species identified as likely or confirmed to occur within the Project Area, the fork-tailed swift (*Apus pacificus*), which has been confirmed to occur and may occupy any aerial habitat over the Project Area.

The species does not breed in Australia, is predominantly aerial and rarely alights on the ground so the species is unlikely to be impacted by the direct or indirect impacts from construction or operational activities of the Project described in **Att-C, Section 7.0, pp 82-91**.

4.1.5.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.5.6 Describe why you do not consider this to be a Significant Impact. *

A significant impact assessment was undertaken for the fork-tailed swift (*Apus pacificus*) 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.

The significant impact assessments identified that the fork-tailed swift was unlikely to be significantly impacted by the Project as the Project was assessed as unlikely to trigger any of EPBC Act significant impact assessment criteria for migratory species, including:

- Substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species
- Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species
- Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.

The full significant impact assessment, relevant criteria and supporting documents are detailed **i**n **Att-C, Part 3, Appendix E, Section 4.1, pp 238-248**.

4.1.5.7 Do you think your proposed action is a controlled action? *

Yes

4.1.5.8 Please elaborate why you think your proposed action is a controlled action. *

Despite it being unlikely for there to be significant impacts on EPBC Act listed migratory species, the Project is considered likely to be a controlled action due to the likely and possible significant impacts to EPBC listed threatened species.

4.1.5.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

To mitigate impacts to potentially occurring MNES values, a Project EMP has been developed which contains detailed mitigation measures for potential environmental impacts as a result of Project activities. Further details on these measures are detailed in **Att-C, Part 1, Section 8.3, pp 93-99**.

The fork-tailed swift (*Apus pacificus*) is predominantly aerial and it is unlikely there are any significant barriers or obstructions to their movement in the Project Area from the Project. There are also no significant threats to the species in Australia that Project activities will increase or contribute to. Therefore, no species-specific avoidance or mitigation measures have been proposed for this species.

4.1.5.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

Where required, Powerlink are committed to providing suitable offsets for activities that result in significant residual impacts to MNES. A Draft Offsets Framework will be developed for the Project to address significant residual impacts.

4.1.6 Nuclear

4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Project (proposed action) is not a nuclear action.

4.1.7 Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.7.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Project does not take place in a Commonwealth Marine Area and will not directly impact a Commonwealth Marine Area. The closest Commonwealth Marine Area is the Coral Sea which is more than 5 km from the coastline and 200 km downstream of the Project Area. The Project is not likely to have any indirect impacts to marine areas.

4.1.8 Great Barrier Reef

4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Project Area is not located within the Great Barrier Reef Marine Park. The Great Barrier Reef is located approximately 200 km north of the Project, with none of the catchments the Project Area is in discharging directly to the Great Barrier Reef Marine Park. The Project is not likely to have any indirect impacts to marine areas, including the Great Barrier Reef Marine Park.

4.1.9 Water resource in relation to large coal mining development or coal seam gas

4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.9.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Project is not a mining or coal seam gas development.

4.1.10 Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.10.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Project Area is not on Commonwealth Land.

4.1.11 Commonwealth Heritage Places Overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Project is not overseas and therefore will not impact Commonwealth Heritage Places Overseas.

4.1.12 Commonwealth or Commonwealth Agency

4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

- Threatened Species and Ecological Communities (S18)

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

No

4.3.8 Describe why alternatives for your proposed action were not possible. *

The purpose of the proposed action is to connect the proposed Borumba Pumped Hydro Energy Storage (PHES) facility to the Halys substation and the location of the action is geographically constrained by this requirement. Initial stakeholder engagement regarding the proposed Borumba PHES project began in December 2021 and was followed by the release of a study area in mid-2022, when Powerlink commenced investigations into potential corridor options to connect the Borumba PHES facility to the transmission network.

As a key component of the transmission network development processes, Powerlink sought community and other stakeholder input on the study area in July and August 2022. Corridor options were then taken to the community for their feedback and input in late 2022 and early 2023.

Throughout the corridor selection process, Powerlink sought feedback at various stages to help inform the refinement and selection of a final 1km-wide corridor. This included considerations into the physical land, environment and heritage values, social impacts, legislative requirements and technical input from Powerlink in relation to constructability of transmission lines.

Powerlink has continued to engage with and hold detailed discussions with directly impacted landholders, Traditional Owner groups and other stakeholders, and further analysis and studies are underway to confirm a 70m-wide easement that balances environmental, social and constructability requirements. Continued refinement of the proposed alignment within the Project Area is expected through the engagement process however given the progression to date for all stakeholders and the time constraints for the delivery of this infrastructure, no alternative locations, timelines or activities are currently being pursued by Powerlink.

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	AttA-PD.pdf Detailed Project Description	08/08/2025	No	High
#2.	Document	AttC-MNES Report_1.pdf MNES Report and appendices	08/08/2025	No	High
#3.	Document	AttC-MNES Report_10.pdf MNES Report and appendices	08/08/2025	No	High
#4.	Document	AttC-MNES Report_11.pdf MNES Report and appendices	08/08/2025	No	High
#5.	Document	AttC-MNES Report_12.pdf MNES Report and appendices	08/08/2025	No	High
#6.	Document	AttC-MNES Report_13.pdf MNES Report and appendices	08/08/2025	No	High
#7.	Document	AttC-MNES Report_14.pdf MNES Report and appendices	08/08/2025	No	High
#8.	Document	AttC-MNES Report_15.pdf MNES Report and appendices	08/08/2025	No	High
#9.	Document	AttC-MNES Report_16.pdf MNES Report and appendices	08/08/2025	No	High
#10.	Document	AttC-MNES Report_17.pdf MNES Report and appendices	08/08/2025	No	High
#11.	Document	AttC-MNES Report_18.pdf MNES Report and appendices	08/08/2025	No	High
#12.	Document	AttC-MNES Report_19.pdf MNES Report and appendices	08/08/2025	No	High
#13.	Document	AttC-MNES Report_2 (1).pdf MNES Report and appendices	08/08/2025	No	High
#14.	Document	AttC-MNES Report_20.pdf MNES Report and appendices	08/08/2025	No	High
#15.	Document	AttC-MNES Report_21.pdf MNES Report and appendices	08/08/2025	No	High
#16.	Document	AttC-MNES Report_3.pdf MNES Report and appendices	08/08/2025	No	High
#17.	Document	AttC-MNES Report_4.pdf MNES Report and appendices	08/08/2025	No	High
#18.	Document	AttC-MNES Report_5 (1).pdf MNES Report and appendices [redacted version for publishing]	21/08/2025	No	High
#19.	Document	AttC-MNES Report_5.pdf MNES Report and appendices	08/08/2025	Yes	High

[SENSITIVE NOT FOR PUBLISHING]					
#20.	Document	AttC-MNES Report_6 (1).pdf MNES Report and appendices [redacted version for publishing]	21/08/2025	No	High
#21.	Document	AttC-MNES Report_6.pdf MNES Report and appendices [SENSITIVE NOT FOR PUBLISHING]	08/08/2025	Yes	High
#22.	Document	AttC-MNES Report_7 (1).pdf MNES Report and appendices [redacted version for publishing]	21/08/2025	No	High
#23.	Document	AttC-MNES Report_7.pdf MNES Report and appendices [SENSITIVE NOT FOR PUBLISHING]	08/08/2025	Yes	High
#24.	Document	AttC-MNES Report_8 (1).pdf MNES Report and appendices [redacted version for publishing]	21/08/2025	No	High
#25.	Document	AttC-MNES Report_8.pdf MNES Report and appendices [SENSITIVE NOT FOR PUBLISHING]	08/08/2025	Yes	High
#26.	Document	AttC-MNES Report_9.pdf MNES Report and appendices	08/08/2025	No	High

1.2.7 Public consultation regarding the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Link	Community Engagement Strategy https://www.powerlink.com.au/resources/community..			High
#2.	Link	Transmission Easement Engagement Process https://www.powerlink.com.au/brochures/transmiss..			High

1.3.2.18 (Person proposing to take the action) If the person proposing to take the action is a corporation, provide details of the corporation’s environmental policy and planning framework

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att B-Health Safety and Environment Policy.pdf Powerlink's Health, Safety and Environment Policy	31/07/2024	No	High

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document				

AttC-MNES Report_1.pdf MNES Report and appendices			07/08/2025	High	
#2.	Document	AttC-MNES Report_19.pdf MNES Report and appendices	07/08/2025		High
#3.	Document	AttC-MNES Report_2.pdf MNES Report and appendices	07/08/2025		High
#4.	Document	AttC-MNES Report_3.pdf MNES Report and appendices	07/08/2025		High

3.2.2 Vegetation within the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	AttC-MNES Report_1.pdf MNES Report and appendices	07/08/2025		High

4.1.4.2 (Threatened Species and Ecological Communities) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	AttC-MNES Report_1.pdf MNES Report and appendices	07/08/2025		High

4.1.4.5 (Threatened Species and Ecological Communities) Why you consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	AttC-MNES Report_3.pdf MNES Report and appendices	07/08/2025		High

4.1.4.10 (Threatened Species and Ecological Communities) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	AttC-MNES Report_1.pdf MNES Report and appendices	07/08/2025		High
#2.	Document	AttD-PLQ EMP_Borumba to Halys Transmission Connection Project.pdf Project EMP	26/02/2025	No	High

4.1.5.6 (Migratory Species) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	AttC-MNES Report_3.pdf MNES Report and appendices	07/08/2025		High

4.1.5.10 (Migratory Species) Avoidance or mitigation measures proposed for this action

Type	Name	Date	Sensitivity	Confidence
#1.	Document AttC-MNES Report_1.pdf MNES Report and appendices		07/08/2025	High
#2.	Document AttD-PLQ EMP_Borumba to Halys Transmission Connection Project.pdf Project EMP		25/02/2025	High

5.2 Declarations

Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN/ACN	20093846925
Organisation name	AECOM AUSTRALIA PTY LTD
Organisation address	4006 QLD
Representative's name	Emily Bright-Brady
Representative's job title	Senior Environmental Engineer
Phone	(07) 3056 4800
Email	emily.bright-brady@aecom.com
Address	Level 8, 540 Wickham Street, FORTITUDE VALLEY QLD 4007

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ By checking this box, I, **Emily Bright-Brady of AECOM AUSTRALIA PTY LTD**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	82078849233
Organisation name	QUEENSLAND ELECTRICITY TRANSMISSION CORPORATION LIMITED
Organisation address	4014 QLD
Representative's name	Rouven Lau

Representative's job title	Principal Development Manager Major Projects
Phone	0409 602 474
Email	rouven.lau@powerlink.com.au
Address	33 HAROLD STREET VIRGINIA QLD 4014

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Rouven Lau of QUEENSLAND ELECTRICITY TRANSMISSION CORPORATION LIMITED**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

✔ Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Rouven Lau of QUEENSLAND ELECTRICITY TRANSMISSION CORPORATION LIMITED**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

☐ I would like to receive notifications and track the referral progress through the EPBC portal. *