# EPBC Act referral

Australian Government
Department of Agriculture, Water and the Environment

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| Title of proposal | 2020/8741 - Western Victorian Transmission Network Project |
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## Section 1

**Summary of your proposed action**

**1.1 Project industry type** Energy Generation and Supply (non-renewable)

**1.2 Provide a detailed description of the proposed action, including all proposed activities**

Overview:

Western Victoria is emerging as an important renewable energy generation region. The current energy network needs upgrading to share this renewable energy with all Victorians. The Western Victoria Transmission Network Project (WVTNP) will add a new link to the network making this possible.

The WVTNP will involve the construction of a new approximately 190km overhead electricity transmission line. Starting in Bulgana in Victoria's west, it will connect to Sydenham in Melbourne's north-west, via a new terminal station to the north of Ballarat by 2025.

This project will involve major economic investment in western Victoria, creating new jobs during and after construction, as well as support Victoria's move towards a cleaner energy future – the Project will help to deliver affordable and clean energy to Victorians.

Project Components:

The main components of the WVTNP are:

- Construction and use of a new terminal station in North Sydenham (500kV high voltage).
- Construction and use of a new terminal station (500kV high voltage) to the north of Ballarat.
- Construction and use of approximately 115km of new overhead double circuit 220kV transmission line between the new terminal station to the north of Ballarat and the existing Bulgana Terminal Station. It is anticipated that this will run parallel in part with the existing Ballarat to Bulgana 220kV transmission line. The new 220kV transmission line is proposed to run alongside and adjacent to the existing 220kV line between the Bulgana and Waubra Terminal Stations. The towers will be positioned as close to the existing towers as allowed under the Electricity Safety (Electric Line Clearance) Regulations 2015. Where possible, each tower will be positioned in step with the existing towers to maintain the same span distance between towers to minimise environmental and social impacts.
- Construction and use of approximately 75km of new overhead double circuit 500kV high voltage transmission line between the new North Sydenham Terminal Station and the new terminal station to the north of Ballarat.
- Construction of towers. The average tower height for 220kV and 500kV lines is 56m and 73m respectively (Attachment A, Figure 1). The towers associated with 220kV and 500kV transmission lines are typically spaced between 450m-550m apart (Attachment A, Figure 2).
- Upgrade works at the existing Bulgana Terminal Station: Installation of 220kV switchgear in the existing switchyard and installation of equipment in control building. Installation of steel structure for cut-in of new lines from tower structure (outside the Bulgana Terminal Station).
- Upgrade works at the existing Ballarat Terminal Station: Extend control building, install new structures and modify drainage within existing terminal station boundaries. Installation of 220kV switchgear in the existing switchyard and installation of secondary and communication equipment in control building.
- Upgrade works at the existing Elaine Terminal Station: Installation of 220kV permanent and temporary steel structures, cut-in of No.2 Moorabool-Ballarat line outside the existing terminal station boundaries. Installation of steel structure for cut-in of existing lines from tower structure. Installation of secondary and communication equipment in control building.
- Ancillary activities include construction of access roads to transmission line tower locations.

Key Construction Activities:

- Removal, destruction and lopping of native and non-native vegetation.
- Construction and use of maintenance and/or construction access tracks. The access tracks will be approximately 4m wide by 0.15m deep. The location of access tracks are yet to be determined however tracks will only be required for some tower locations.
- Construction of hard stand and laydown areas and excavation of foundations and form work. The tower foundations and hardstand are approximately 50m by 50m (this includes the tower footprint and the hardstand adjacent to the tower). Each tower requires four pile foundations between 4m and 18m deep and between 1.5m and 3m in diameter, depending upon local

ground conditions. The laydown areas may be additional to land within the easement that is defined for operation and maintenance activities.

- Installation of towers and overhead powerlines and other ancillary electricity infrastructure. Construction of each tower will take approximately two weeks using heavy machinery.
- Construction of terminal stations and operations and maintenance buildings.
- Construction and use of concrete batching plants (if required).
- Construction and carrying out of earthworks to create bunds, mounds and landscaping.
- Progressive rehabilitation of the sites and landscaping.

The Project is assessing whether there are suitable existing commercial quarry operations where construction material can be sourced locally or regionally. The Project is also exploring whether borrow pits could be used to acquire some or all of the material from private land near to the Project, while also avoiding and minimising impacts. If material cannot be sourced from existing operations and there is a need to explore alternatives, permits and approvals required for establishing new quarry/borrow sites or expanding existing sites within the Area of Interest (AOI) will be sought.

Key Operational Activities:

AusNet Services will build the new transmission line and terminal stations and then operate and maintain these over a 30-year period.

Transmission line easements are required to enable the use (operation and maintenance) of transmission line infrastructure. Easements will include all land required for ongoing maintenance and operations including access tracks.

The dimensions of the easements are designed to provide electrical clearances including maintaining a clearance of 4.6m or 6.4m (220kV and 500kV respectively) from the lines to any object in any direction and a horizontal clearance of 14.8m or 28m (220kV and 500kV respectively) from the centreline to allow for sway in the line. These clearances are required under the Electricity Safety (Electric Line Clearance) Regulations 2015.

Ownership of the land subject to the easement remains with the landowner. Grazing, cropping and other agricultural practices can continue on the land in the easement underneath the transmission lines, however other uses may be restricted. For a summary of the types of on-going land uses that can continue as well as those that are prohibited in an easement refer to: https://www.ausnetservices.com.au/-/media/Files/AusNet/Residential-Electricity/Safety/A-guide-to-living-with-transmission-line-easements.ashx?la=en

To ensure the safety of landowners and the community, AusNet Services has statutory authority to enter the land for ongoing operations and maintenance.

Terminal stations will contain electrical equipment, switchgear (circuit breaker, isolators etc), transformers and shunt reactors, racks (for lines to land on) and buildings (to house secondary equipment) and will be remotely monitored from an off-site control room.

**1.3 What is the extent and location of your proposed action?**

See Appendix B

**1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland)**

The AOI (Attachment B) has been developed to assess and identify potentially viable corridors for new overhead transmission lines between Sydenham in Melbourne's north-west and Bulgana (north of Ararat) in Victoria's west. Viable transmission line corridors will be subject to more assessment to identify a preferred alignment for further assessment. From the west, the AOI includes land north of and adjacent to the existing Bulgana-Waubra 220kV transmission line. From the existing Waubra Terminal Station, the AOI widens to connect into a new terminal station to the north of Ballarat (investigation area is shown on Attachment B). From the new terminal station to the north of Ballarat, a 500kV transmission line must run on an east-west axis to a new North Sydenham Terminal Station, next to the existing Sydenham Terminal Station. Environmental investigations, design and consultation are underway to identify a preferred corridor within the AOI.

**1.6 What is the size of the proposed action area development footprint (or work area) including disturbance footprint and avoidance footprint (if relevant)?**

The total length of the AOI between Bulgana and Sydenham is approximately 190km. The length of the transmission line alignment and development footprint will be calculated once a preferred corridor is selected.

Between the Bulgana and Waubra Terminal Stations, the new operational easement for the new 220kV transmission line is

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expected to be between 35m and 50m. Between Waubra Terminal Station and the new terminal station north of Ballarat, the easement for the new 220kV transmission line is expected to be approximately 50m. The operational easement associated with the 500kV transmission line is expected to be between 70m and up to 100m wide in sections.

A construction area that extends beyond the easement for the purpose of ongoing maintenance and operational activities will be required for temporary laydown and access requirements. The dimension of construction footprints is provided under Key Construction Activities in section 1.2.

**1.7 Proposed action location**

Other - The AOI is between Sydenham, in Melbourne's north-west and Bulgana, in Victoria's west.

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| **1.8 Primary jurisdiction** | Victoria |

**1.9 Has the person proposing to take the action received any Australian Government grant funding to undertake this project?**

☐ Yes ☑ No

**1.10 Is the proposed action subject to local government planning approval?**

☑ Yes ☐ No

**1.10.1 Is there a local government area and council contact for the proposal?**

☑ Yes ☐ No

**1.10.1.0 Council contact officer details**

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| 1.10.1.1 Name of relevant council contact officer | Pyrenees Shire Council. (The AOI intersects six local government areas. For all Council contact details refer to Attachment C) |
| 1.10.1.2 E-mail | pyrenees@pyrenees.vic.gov.au |
| 1.10.1.3 Telephone Number | 1300 797 363 |

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| **1.11 Provide an estimated start and estimated end date for the proposed action** | Start Date | 02/10/2022 |
| | End Date | 02/10/2024 |

**1.12 Provide details of the context, planning framework and state and/or local Government requirements**

Victorian approvals required:
- Planning Scheme Amendments under Planning and Environment Act 1987
- Cultural Heritage Management Plans under Aboriginal Heritage Act 2006
- Consent under the Road Management Act 2004 from the coordinating road authority for works on, in or under a road reserve
- Potential permit to remove protected flora on public land under Flora and Fauna Guarantee Act 1988
- Potential consent under Heritage Act 2017 to impact on any sites on the Victoria Heritage Register / the Victorian Heritage Inventory and to impact on archaeological relics (non-Aboriginal archaeological relics more than 50 years old)
- Potential license under Water Act 1989 to construct, alter, operate or decommission works on, over or under a waterway, to construct a bore or to extract groundwater
- Potential authorisation to relocate wildlife under Wildlife Act 1975
- Potential authorisation for a borrow pit including a work authority or Work Plan under Mineral Resources (Sustainable Development) Act 1990.

The Cultural Heritage Management Plan process has commenced for a small section of the AOI however no approval applications have been lodged to date.

Planning Scheme Provisions:
The AOI is in the area of the Northern Grampians, Pyrenees, Ballarat, Hepburn, Moorabool, Melton, and Pyrenees Planning Schemes. An assessment against the Planning Policy Framework of Victorian Planning Schemes indicates that the Project supports:
- Clause 11–Settlement by responding to the needs of existing and future communities by providing required infrastructure

and in providing diversity of choice and provision of efficiency in relation to energy supply.
- Clause 19 –Renewable energy by providing transmission infrastructure to support the growth of renewable energy in western Victoria; to enable a more efficient sharing of energy across Victoria. The Project also supports Clause 17 - Economic development.
- Objectives relating to protecting natural environments and resources, landscapes and amenity will continue to be recognised as part of the assessment process and final design of the Project to minimise and mitigate/manage potential impacts.

Relevant local policy objectives are contained in each Council's Municipal Strategic Statement (MSS). The MSS objectives relevant to the Project generally focus on needing to protect highly productive agricultural land use and the rural character of each municipality. Most municipalities have objectives to protect significant landscapes and vistas, and the natural features of the area including biodiversity. It is noted that the Shire of Moorabool has specific policies for future development of the townships of Bacchus Marsh and Ballan.

Objectives supporting energy generation and infrastructure, particularly relating to renewable energy are included in Northern Grampians and Ballarat Planning Schemes.

Most of the AOI for the 220kV transmission line is in the Farming Zone. Other zones in the 220kV AOI are Public Conservation and Resource Zone (recognises areas of public recreation, conservation and open space), Rural Conservation Zone (seeks to conserve natural environments), Rural Living Zone (provides for residential use in rural environments), Public Use Zone 1 (recognises public land use for public utility, community services and facilities), Road Zone, Category 1 (identifies arterial roads) and Township Zone (provides for residential development and other uses in small towns).

Overlays which intersect or are adjacent to the 220kV AOI include Environmental Significance Overlay (ensures development is compatible with environmental values), Vegetation Protection Overlay (protects areas of significant vegetation), Bushfire Management Overlay (identifies where bushfire is a hazard), Erosion Management Overlay (protects areas prone to erosion and landslip or other land degradation processes), Floodway Overlay (identifies waterways at risk of flooding), Land Subject to Inundation Overlay (ensures development maintains the free passage of floodwaters) and Significant Landscape Overlay (identifies significant landscapes).

Most of the AOI for the 500kV transmission line is in the Farming Zone and Green Wedge Zone. Other zones within the 500kV AOI are Rural Conservation Zone, Special Use Zone, Rural Living Zone, Road Zone, Category 1 and Public Use Zone 4. For the alignment selection, residential zones within the AOI will be avoided.

Overlays which intersect or are adjacent to the AOI for the 500kV transmission line are the Significant Landscape Overlay, Heritage Overlay (seeks to conserve and enhance heritage places of natural or cultural significance), Environmental Significance Overlay, Design and Development Overlay (identifies requirements relating to design/built form), Bushfire Management Overlay (identifies bushfire risk and mitigations that may be required) and Melbourne Airport Environs Overlay (supports the ongoing operation of Melbourne Airport).

**1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders**

AusNet Services is committed to engaging extensively with stakeholders and the community, in an open, inclusive, accessible and timely manner through the planning and delivery of the WVTNP. The Project's communications and engagement objectives aim to:
- Strengthen relationships with stakeholders to foster trust, awareness, and understanding of the Project
- Develop and maintain a social licence to develop, construct and operate through best practice stakeholder engagement
- Increase awareness, understanding and support of the Project, including the process of design, approvals, construction and operations
- Minimise impacts to stakeholders by proactively mitigating potential impacts and provide timely responses to issues via easily accessible communication channels
- Facilitate genuine stakeholder and community input to minimise impacts, maximise benefits and meet commitments made to the community.

AusNet Services acknowledges the scale and scope of the Project underline the importance of extensive consultation with directly and indirectly affected stakeholders. Based on this, the following principles have been adopted – Understanding, Openness, Respect and Responsiveness.

AusNet Services' engagement and consultation strategy seeks stakeholder feedback, to identify issues and concerns and draws on stakeholder input to assist in informing the Project design and potential construction methodology. Successful coordination and integration of stakeholder and community engagement, planning and design is critical to successful Project

outcomes.

Proposed consultation approach:
AusNet Services have commenced consultation with the community, landowners, occupiers, Councils and relevant agencies. Communication and engagement activities will be tailored to suit the community and stakeholder preferences in the Project area. The purpose of the engagement program is to provide timely and effective stakeholder participation to the planning and design phase, specifically:

- Raise awareness of the Project including promoting opportunities for feedback/comment
- Provide clear and accessible avenues for providing feedback
- Undertake engagement with key stakeholders on the area of interest and potential environmental and social impacts
- Support social and economic development initiatives and foster Project advocates
- Identify opportunities to maximise local community benefit
- Facilitate stakeholder input and participation in statutory consultation periods

Stakeholder input will be sought via a range of channels such as an online engagement platform, using interactive feedback tools, targeted briefings, information sessions and forums, surveys and questions and answers, targeted stakeholder group engagement, one on one discussions, council advisory groups and community reference groups.

Key communication channels are website/online engagement platforms, telephone hotline and email, mailouts, static displays and posters, print, radio and television advertising, geotargeted social media, Project videos and factsheets and newsletters.

The Project website https://www.westvictnp.com.au/ has online engagement tools to allow stakeholders to access the latest Project information and provide direct feedback to the Project team.

Considering the context of Covid-19, the engagement approach has been refined to increase online engagement activities while ensuring extensive communication through traditional print and media. The safety, security and well-being of the community and our staff is our top priority and we are following the directions of the Chief Health Officer of Victoria through the State of Emergency for the global pandemic as well as AusNet Services company policies.

Consultation to date:
AusNet Services have commenced consultation with landowners and occupiers, and regulatory stakeholders including DAWE, DELWP (Impact Assessment, Statutory Planning, Grampians and Port Phillip Regions), Councils, Aboriginal Victoria, Heritage Victoria, Registered Aboriginal Parties, and other relevant agencies (Attachment D lists all engagement with stakeholders to date).

Over 70 stakeholder briefings and meetings having occurred so far via video-conferencing during Covid-19 and six online community information sessions were held in July 2020. Initial Project engagement activities with six Councils and agencies have sought to build awareness and benefits of the Project and share the Project area (AOI) to gain local knowledge and insights. In addition to informing decision-making, these insights help determine the best way to engage with their diverse communities during Covid-19.

**1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project**

The Project has been referred to the Victorian Minister for Planning under the Environment Effects Act 1978 to decide if an EES is needed. Section 1.10 provides information about the other potential approvals required for the project.

**1.15 Is this action part of a staged development (or a component of a larger project)?**

☐ Yes ☑ No

**1.16 Is the proposed action related to other actions or proposals in the region?**

☐ Yes ☑ No

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## Section 2

**Matters of national environmental significance**

**2.1 Is the proposed action likely to have any direct or indirect impact on the values of any World Heritage properties?**

☐ Yes ☑ No

**2.2 Is the proposed action likely to have any direct or indirect impact on the values of any National Heritage places?**

☐ Yes ☑ No

**2.3 Is the proposed action likely to have any direct or indirect impact on the ecological character of a Ramsar wetland?**

☐ Yes ☑ No

**2.4 Is the proposed action likely to have any direct or indirect impact on the members of any listed species or any threatened ecological community, or their habitat?**

☑ Yes ☐ No

**Species or threatened ecological community**

Flora:

Biodiversity database searches for EPBC Act listed threatened species and Threatened Ecological Communities (TECs) were conducted using modelled occurrence (EPBC Protected Matters Search Tool, DAWE 2020) (refer to Attachment E) and historic records (Victorian Biodiversity Atlas, DELWP 2020). These searches identified 46 EPBC Act listed threatened flora species and five TECs within or in close proximity to the AOI.

Based on an appraisal of records, 10 threatened flora species are considered to have a moderate to high potential to occur within or directly surrounding the AOI (refer to Attachment F). The identified five TECs also have a moderate to high potential to occur within or directly surrounding the AOI (refer to Attachment G).

**Impact**

A preliminary assessment has been conducted of the likelihood of EPBC listed flora species and communities being present and potential for impacts, based on the scale of the Project and activities within the AOI. Attachments F and G presents the outcomes of this preliminary assessment for flora species and TECs (respectively) with a moderate to high likelihood of occurrence in the AOI.

While some impact to listed threatened species and TECs is likely to occur as a result of the scale of the Project, there is significant capacity to avoid and minimise potential impacts to areas of high ecological value -there is capacity to avoid impact to some habitats through the alignment selection, adopting ecologically-sensitive design and micro-siting during the construction phase of the Project.

The magnitude of the impact to threatened flora species and TECs will be determined following field-based assessments to verify presence, assess potential impacts and identify opportunities for potential impact mitigation.

**Species or threatened ecological community**

Fauna:

Biodiversity database searches for EPBC Act listed threatened fauna species were conducted using modelled occurrence (EPBC Protected Matters Search Tool, DAWE 2020) (refer to Attachment E) and historic records (Victorian Biodiversity Atlas, DELWP 2020). These searches identified 46 threatened fauna (excluding ocean-dwelling cetaceans, pelagic birds, and fish)

within or in close proximity to the AOI.

Based on an appraisal of records and potential and known habitats in the area, eight threatened fauna species are considered to have a moderate to high potential to occur within or directly surrounding the AOI. These species are: Curlew Sandpiper, Swift Parrot, Australian Painted-snipe, Growling Grass Frog, Golden Sun Moth, Small Golden Moth, Spot-tailed Quoll and Striped Legless Lizard. Refer to Attachment F.

**Impact**

A preliminary assessment of the likelihood of EPBC listed fauna being present and the potential for impacts has been conducted based on the scale of the Project and activities within the AOI. Attachment F presents the outcomes of this preliminary assessment. The magnitude of the impact to threatened fauna species will be determined following field-based assessments to verify presence, assess potential impacts and identify opportunities for potential impact mitigation.

While the Project will employ practicable measures to avoid impacts (refer to section 4.1), potential impacts may include:

- Habitat loss: The AOI has largely been historically disturbed from its pre-European state for agriculture and few contiguous habitat areas remain. It is anticipated that the Project may result in small scale habitat loss, however impacts can be avoided or minimised through ecologically-sensitive design and micro-siting during construction. Where impacts cannot be avoided, habitat loss may occur on the edges of existing habitat areas and on the edges of existing breaks (e.g. roads or other powerline easements). It is expected that timbered land within any easement along the final route will be managed such that logs and coarse woody debris will be regularly removed to manage fire risk. The Project will attempt to avoid and/or minimise the loss of hollow-bearing tree habitat in forests and woodlands, and isolated paddock trees where possible.

- Habitat fragmentation: The Project has the potential to result in habitat fragmentation in specific areas where it intersects areas of contiguous habitat and leave gaps that hinder natural dispersal of biodiversity. Areas where this impact may be incurred include habitat links between the AOI and the Lerderderg State Park-Pyrete Range, the Parawan Creek and Brisbane Ranges National Park, vegetated habitat corridors between Gordon and the Moorabool Reservoir and riparian habitat corridors associated with Creswick Creek, Mount Greencock Creek and Greenhill Creek. Potential impact may also occur to habitat corridors between Creswick Regional Park and Glen Park State Forest and vegetated areas surrounding Ben Major Bushland Reserve. Vegetated roadside corridors provide important habitat corridors in agricultural areas devoid of other vegetation. These areas may be impacted where works intersect road corridors.

- Potential for birds and bats to collide with stationary infrastructure: Birds and bats are at risk of in-flight collision with stationary infrastructure, including towers, electricity lines and tall compound fences (DELWP 2017; Maloney, Lumsden, Smales 2019) which may result in injury and/or mortality. Lighting may disorient birds at night increasing collision risk however it is noted that towers will not have any lighting. Transmission lines can be difficult for some species to avoid, resulting in fatalities - transmission lines pose a well-documented hazard for many species of large birds (DELWP 2017), particularly those which travel between critical sites along flightpaths that are intersected by the transmission lines (e.g. migratory species travelling between breeding and non-breeding areas). As suggested by Biosis (2016a), some larger bird species experience a higher frequency of collisions with low voltage distribution power lines per powerline length than they do with larger, higher voltage lines. Flight paths of relevant species will be considered during design and siting tasks. Some species may avoid the infrastructure by large margins, resulting in loss of access to nearby habitats. Seasonal influences may also vary the suite of species potentially impacted and the extent of those impacts during those seasons. Measures to minimise potential collision impacts include ecologically sensitive design (e.g. high visibility line markers have previously proven to be highly successful (Biosis 2016b)) and siting of towers to minimise impacts, micro-siting during construction and employing adaptive management measures during construction and operation.

- Predation of native wildlife: Where the Project is in close proximity to forested and woodland areas that support native fauna, the introduction of a newly cleared area and transmission towers as access and vantage points has potential to increase the predation of native fauna. Options to mitigate the risk of increased predation will be further considered following field assessments.

- Introduction and spread of weeds and pathogens: There is potential that machinery or materials that are required for the Project may become contaminated and introduce or spread existing weed material or pathogens, such as Phytophthora cinnamomic (die-back / root-rot). Weed and pathogen hygiene protocols will be employed to minimise the risks. Weed establishment will be suppressed in areas of disturbed soil (e.g. revegetating with fast-growing species such as infertile grasses that enable native vegetation succession).

**2.4.2 Do you consider this impact to be significant?**

☑ Yes ☐ No

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**2.5 Is the proposed action likely to have any direct or indirect impact on the members of any listed migratory species or their habitat?**

☑ Yes ☐ No

**Migratory species**

Fifteen Migratory Birds were identified by the PMST as having the potential to occur within the AOI, including the Curlew Sandpiper and Eastern Curlew, both listed as critically endangered; and the Red Knot, listed as endangered. Given the wide range of habitats present within the AOI and the fact that the proposed transmission line extends for approximately190km, it is considered likely that the majority, if not all identified migratory species, have potential to occur within the AOI utilizing wetlands, riparian areas, and woodlands within the AOI for feeding and roosting.

A list of the Migratory species is contained in Attachment H.

**Impact**

The potential for the Project to impact on migratory species requires further assessment to confirm presence of species and extent of populations. Direct impacts to wetland, riparian, and woodland habitats that the migratory species may use for feeding and roosting will be avoided where possible through siting of the final alignment and towers away from these habitats.

The potential for the Project to impact on migratory species more widely as a result of bird collision with transmission lines is being further investigated considering local and international research into this potential impact (e.g. Benardino et al. 2018). The risks to migratory birds appear to be primarily through injury caused by collision with the transmission lines. Risks of electrocution are lower for transmission lines considered here as compared to distribution lines due to the design and operation of the high voltage transmission lines.

Mitigation options available to minimise potential collision impacts include siting of infrastructure away from breeding areas such as wetlands and large areas of woodland and forests where possible and use of high visibility line markers in areas where this is not achievable. With these measures being followed the exposure of migratory birds to collision risks will be minimised and the ability of birds that are exposed to collision risks to avoid transmission lines will be enhanced. As such, it is considered that significant impacts to migratory birds can be avoided.

**2.5.2 Do you consider this impact to be significant?**

☐ Yes ☑ No

**2.6 Is the proposed action to be undertaken in a marine environment (outside Commonwealth marine areas)?**

☐ Yes ☑ No

**2.7 Is the proposed action likely to be taken on or near Commonwealth land?**

☐ Yes ☑ No

**2.8 Is the proposed action taking place in the Great Barrier Reef Marine Park?**

☐ Yes ☑ No

**2.9 Is the proposed action likely to have any direct or indirect impact on a water resource from coal seam gas or large coal mining development?**

☐ Yes ☑ No

**2.10 Is the proposed action a nuclear action?**

☐ Yes ☑ No

**2.11 Is the proposed action to be taken by a Commonwealth agency?**

☐ Yes ☑ No

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**2.12 Is the proposed action to be undertaken in a Commonwealth Heritage place overseas?**

☐ Yes ☑ No

**2.13 Is the proposed action likely to have any direct or indirect impact on any part of the environment in the Commonwealth marine area?**

☐ Yes ☑ No

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## Section 3

### Description of the project area

**3.1 Describe the flora and fauna relevant to the project area**

Given the Project is a long linear project crossing three bioregions (refer to section 3.3), the flora and fauna species and communities with potential to occur throughout the AOI vary widely. In general, the AOI comprises cleared agricultural areas used for cropping and grazing and dominated by non-native vegetation. There are some areas of remnant vegetation encompassing woodlands, forests, native grasslands, and scattered remnant trees within agricultural paddocks and these environments form habitat for a variety of flora and fauna species, many of which are listed as threatened. Further assessments are required to better understand the flora and fauna species and habitats that may be present along the chosen alignment.

Desktop and field flora and fauna surveys are underway to identify the opportunities and constraints within the AOI and to help narrow the area to a preferred corridor for further investigation.

**3.2 Describe the hydrology relevant to the project area (including water flows)**

There is a degree flexibility for the Project to site towers and the terminal station outside wetland areas, rivers, creeks and drainage lines and for the line installation and ongoing operation of transmission lines to avoid these areas entirely. Hydrological investigations are currently underway to identify the opportunities and constraints within the AOI and to help inform corridors for further investigation. It is not expected that the Project will impact significantly on the hydrology along any chosen corridor.

- AOI for 220kV alignment: The AOI traverses the catchments of the Moorabool River, Loddon River, Mount Emu Creek, Avoca River and Wimmera River and crosses many smaller watercourses. The AOI intersects or is in close proximity (<100 m) to many unnamed wetlands (>100).

- AOI for 500kV alignment: The AOI traverses the catchments of the Maribyrnong River, Kororoit Creek, Werribee River and Moorabool River and crosses many smaller watercourses.The AOI includes many mapped wetland areas (>100). It contains or is in close proximity (<100m) to Lake Merrimu, Melton Reservoir, Pykes Creek Reservoir, Bostock Reservoir, Gong Gong Reservoir, White Swan Reservoir, Newlyn Reservoir and many unnamed wetlands, though may not impact on these wetlands depending on final design and construction.

- Area of Investigation for new terminal station to the north of Ballarat: The area of investigation for the new terminal station to the north of Ballarat is partly within the catchment of the Moorabool and Loddon Rivers. There are 44 mapped wetlands within the area of investigation, primarily on private property. Depending on the chosen location, there is potential that the Project will impact on the mapped areas and values of wetlands (i.e. as feeding and breeding habitat for a range of specialized fauna as well as flora habitat).

**3.3 Describe the soil and vegetation characteristics relevant to the project area**

Bioregions are a landscape-scale approach to classifying the environment using a range of attributes such as climate, geomorphology, geology, soils and vegetation. The long linear project is located across three Victorian bioregions (environment.vic.gov.au/biodiversity/bioregions-and-evc-benchmarks) outlined below.

Victorian Volcanic Plain (generally east of Bacchus Marsh and north and west of Creswick):
"The Victorian Volcanic Plain, located in west Victoria, is dominated by Cainozoic volcanic deposits. These deposits formed an extensive flat to undulating basaltic plain with stony rises, old lava flows, numerous volcanic cones and old eruption points and is dotted with shallow lakes both salt and freshwater. Numerous volcanic cones dot the landscape with scoria cones being the most common (e.g. Mount Elephant, Mount Napier and Mount Noorat) although some basalt cones are present (e. g. Mount Cottrell).

The soils are variable ranging from red friable earths and acidic texture contrast soils (Ferrosols and Kurosols) on the higher fertile plain to scoraceous material, and support Plains Grassy Woodland and Plains Grassland ecosystems.

Calcareous sodic texture contrast soils grading to yellow acidic earths (Chromosols and Sodosols to Dermosols), on the intermediate plain, and grey cracking clays (Vertosols) on the low plains, support Stony Knoll Shrubland, Plains Grassy Woodland and Plains Grassy Wetland ecosystems.
On the stony rises (volcanic outcropping) the stony earths (Dermosols and Tenosols) support Stony Rises Herb-rich Woodland, Basalt Shrubby Woodland and Herb-rich Foothill Forest ecosystems."

Central Victorian Uplands (generally between Bacchus Marsh and Creswick):
"The Central Victorian Uplands, located in the central Victoria, is dominated by Lower Paleozoic deposits giving rise to

dissected uplands at higher elevations, amongst granitic and sedimentary (with Tertiary colluvial aprons) terrain with metamorphic and old volcanic rocks which have formed steeply sloped peaks and ridges. The less fertile hills support Grassy Dry Forest and Heathy Dry Forest ecosystems. Herb-rich Foothill Forest and Shrubby Foothill Forest ecosystems dominate on the more fertile outwash slopes. The granitic and sedimentary (with Tertiary colluvial aprons) terrain is dominated by Grassy Woodlands much of which has been cleared. Lower lying valleys and plains are dominated by Valley Grassy Forest and Plains Grassy Woodland ecosystems."

Goldfields (at the north-western end of the Project area):
"Goldfields, located in central Victoria, is dominated by dissected uplands (predominantly a northerly aspect) of Lower Palaeozoic deposits. Metamorphic rocks have formed steeply sloped peaks and ridges. A variety of relatively poor soils are dominant with yellow, grey and brown texture contrast soils (Chromosols and Sodosols) and minor occurrences of friable earths (Dermosols and Ferrosols).

Box Ironbark Forest, Heathy Dry Forest and Grassy Dry Forest ecosystems dominate the lower slopes or poorer soils. The granitic and sedimentary (with Tertiary colluvial aprons) terrain is dominated by Grassy Woodlands much of which has been cleared. Occasional low-lying corridors of alluvial valleys between the uplands are dominated by Low Rises Grassy Woodland and Alluvial Terraces Herb-rich Woodland ecosystems."

**3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area**

Conservation and Recreation:
The AOI intersects or is within 10km of many areas of public land used for conservation or recreation purposes. These areas have been avoided to the extent practicable. Where the AOI intersects these areas, the Project will seek to avoid impacts through design and alignment selection. Sites of significance which intersect or are within 10km of the AOI include:

- Organ Pipes National Park
- Long Forest Nature Conservation Reserve
- Lerderderg State Park
- Wombat State Forest
- Werribee Gorge State Park
- Creswick Regional Park
- Glen Park State Forest
- Ben Major State Forest
- Mount Cole State Forest
- Pyrenees Range State Forest
- Brisbane Ranges National Park
- Joel Joel Nature Conservation Reserve
- Lexton Nature Conservation Reserve.

Ecological Values of the AOI for 220kV alignment:
The AOI avoids the majority of significant ecological values present in the surrounding areas such as parks, major waterways and large patches of native vegetation. In general, the AOI comprises cleared agricultural areas dominated by non-native vegetation and livestock. Some ecological values are modelled to be present within the AOI, particularly in conservation areas (such as those listed above). Further assessment is required to verify the presence and extent of values present.

Areas that have highest potential for ecological values such as threatened communities and habitat for threatened species are those with large intact areas of native vegetation that can support a range of threatened species. For a 220kV corridor in the AOI, these areas are largely restricted to:

- Areas of native forest and woodland in the vicinity of Lexton. Areas of forest in this area that may support threatened species such as Ben Major Grevillea.
- Areas of forest close to Creswick that have potential to support a range of threatened species.
- Patches of woodland between Amphitheatre and Bulgana that have potential to support threatened woodland communities and a range of threatened species.

Ecological Values of the AOI for 500kV alignment:
In general, the AOI comprises cleared agricultural areas dominated by non-native vegetation and livestock and it avoids the majority of significant ecological values present in the surrounding areas such as parks, major waterways and large patches of native vegetation. There are some ecological values considered likely to occur within the AOI, particularly in conservation areas (such as those listed above).

Areas that have the highest potential for ecological values such as threatened communities and habitat for threatened species are those areas with large intact areas of native vegetation or native grassland areas which are classified as

endangered and can support a range of threatened species. For the 500kV transmission line AOI, these areas are largely restricted to:

- Native grasslands between Sydenham and Bacchus Marsh that have potential to comprise threatened communities and habitat for a range of threatened species including Spiny Rice-flower, Golden Sun Moth and Striped Legless Lizard.
- Areas within Long Forest east of Bacchus Marsh which support vegetation that can comprise threatened communities and species such as Brittle Greenhood and Bacchus Marsh Wattle that are regionally restricted to this area. These areas may also support migrating Swift Parrot.
- Areas of forest adjacent to the Lerderderg State Park which have potential to support high quality native vegetation that can support threatened species including the Swift Parrot.
- Areas of forest near Moorabool Reservoir, with potential to support high quality native vegetation for threatened species including Basalt Peppercress.

Through alignment selection and design the Project seeks to avoid areas of significance. There is a degree of flexibility for the Project to site towers and the new terminal stations outside areas of known or potential sensitivity (such as wetland areas, rivers, creeks and drainage lines).

Ramsar Wetlands:

The Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site is located within 10km of the AOI. Drainage may indirectly connect from the AOI to this Ramsar site. No impact to water quality or flows to the Ramsar wetland is likely to occur given transmission line towers can be located away from tributaries leading to the wetland and appropriate drainage management controls and environmental management measures will be implemented to minimise the risk and potential impact of erosion, sedimentation or fuel spills.

Investigation Area for new terminal station to the north of Ballarat:

The area of investigation does not include areas that are likely to be of significant ecological value such as parks, major waterways and large patches of native vegetation. However, there is potential habitat for threatened communities and threatened species. The extent to which these values may be present requires further assessment.

**3.5 Describe the status of native vegetation relevant to the project area**

The native vegetation present within the AOI varies widely in both extent and quality based on the brief field assessments undertaken to date. The areas of native vegetation observed so far are mainly small fragmented patches along road reserves, waterways and in private property, though some intact forests and woodlands are present in reserves, State forests and private land, particularly near Creswick, Lexton and Bacchus Marsh. In general, the smaller isolated patches are relatively degraded, with non-native plants forming the majority of the understory. Further assessments are required to better understand the condition of native vegetation along a preferred alignment.

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

The AOI is located across a range of topographical types including:

- Relatively flat plains
- Undulating plains
- Elevated ridgelines and mountains
- Volcanic cones
- Valleys and gorges, including Werribee Gorge and Lerderderg Gorge
- Granite outcrops.

**3.7 Describe the current condition of the environment relevant to the project area**

The current condition of the environment of the AOI is described throughout section 3, in particular sub-sections 3.4, 3.5 and 3.11. In general, the AOI comprises cleared agricultural areas used for cropping and grazing and dominated by non-native vegetation. There are some areas of remnant vegetation encompassing woodlands, forests, native grasslands and scattered remnant trees within agricultural paddocks and these environments form habitat for a variety of flora and fauna species, many of which are listed as threatened. Further assessments are required to better understand the flora and fauna species and habitats that may be present along the chosen alignment.

**3.8 Describe any Commonwealth Heritage places or other places recognised as having heritage values relevant to the project**

The following heritage registers were searched to determine the registered historical heritage places present within the AOI:

- Victorian Heritage Register under the Heritage Act 2017
- Victorian Heritage Inventory under the Heritage Act 2017
- Commonwealth Heritage List under the EPBC Act
- National Heritage List under the EPBC Act

- Register of the National Estate
- Heritage Overlays within relevant Planning Schemes.

No places within the Commonwealth Heritage List, National Heritage List or Register of the National Estate were recorded within the AOI. The closest Commonwealth heritage places are located approximately 8km south east of the nearest point of the AOI:

- Officer's Mess, RAAF Williams Laverton Base
- Eastern Hangars and West Workshops Precincts, RAAF Williams Laverton Base.

The closest National heritage place to the AOI is the Eureka Stockade Gardens, located approximately 3.5km south west of the closest part of the AOI.

The closest Commonwealth heritage places and National heritage places to the AOI could not be impacted by the Project due to the effects of distance, topography, and existing vegetation and urban development.

The AOI contains places on the Victorian Heritage Register, Victorian Heritage Inventory and Heritage Overlays within the relevant Planning Schemes.

In addition to the above, a submission is currently being prepared by a consortium of Councils in Central Victoria to formulate a serial nomination of a collection of places related to the Victorian Goldfields for inscription in the UNESCO World Heritage List. The preparation of the submission is in its early stages and the extent of the nomination is yet to be scoped. It is likely that the nomination will consist of places already included in the Victorian Heritage Register, but at present no decision has been made as to which places these might be.

**3.9 Describe any Indigenous heritage values relevant to the project area**

A search of the Aboriginal Cultural Heritage Register and Information System (ACHRIS), the online tool used to access the Victorian Aboriginal Heritage Register (VAHR) under the Aboriginal Heritage Act 2006 was undertaken.

Aboriginal Places:
The VAHR search of the AOI revealed hundreds of registered Aboriginal places, including artefact scatters, low density artefact distributions, scar trees, earth features, quarries and object collections.

Areas of Cultural Heritage Sensitivity (CHS):
The ACHRIS search highlighted that there are hundreds of areas of CHS within the AOI and that there are three types of CHS:

- Aboriginal places
- Named waterways
- Volcanic cones.

The Project will require several mandatory Cultural Heritage Management Plans (CHMPs) in accordance with the Aboriginal Heritage Act 2006 and the Aboriginal Heritage Regulations 2018. The purpose of the CHMPs is to identify any Aboriginal heritage values located within the Project area. The presence, nature and extent of Aboriginal heritage values within the AOI will be confirmed as part of the CHMP process.

**3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area**

Land within the action area is a mix of private and public, including roads and reserved and unreserved Crown land. The AOI does not intersect with Commonwealth Land.

**3.11 Describe any existing or any proposed uses relevant to the project area**

Agriculture is the dominant land use across the AOI, with a significant amount of land used for livestock grazing and crop production including plantations. Some of this agricultural land has been identified as strategic and is the subject of a current study by DELWP.

The AOI is also located within 10km of significant areas of public open space used for protection of the natural environment and for some outdoor recreation activities. The most significant such areas are listed in section 3.4. The AOI intersects a number of townships and outer suburbs of Melbourne and Ballarat, including Hillside, Sydenham, Caroline Springs, Melton, Bacchus Marsh, Ballan and Creswick. The townships generally consist of a civic/commercial core and are surrounded by industrial and residential development. Multiple smaller townships, predominantly made up of residential development and many areas of rural living, are located throughout the AOI. Within the Shires of Melton and Moorabool, land adjacent to the

AOI is located in the Western Growth Area and is within the Urban Growth Zone. This land is earmarked for future urban development. Within in the City of Ballarat, the AOI is also located adjacent to a future growth area. Siting the proposed infrastructure within or adjacent to existing transmission line easements or within land adjacent to proposed road and rail projects is being investigated to understand if it is technically viable and whether the associated environmental and social impacts in these urban growth areas are acceptable.

Freeways and State Highways within the AOI include the Western Freeway, Calder Freeway, Melton Highway, Midland Highway, Sunraysia Highway and Pyrenees Highway. The Area of Investigation crosses the Midland, Sunraysia and Pyrenees Highways. The area also crosses the Melbourne – Bendigo, Melbourne – Ballarat and Ballarat – Maryborough railway lines. As a design principle, crossing railway and roads will be avoided where possible.

There are four airports identified within 10km of the AOI as part of public data information - Melbourne Airport, Bacchus Marsh Airfield, Ballarat Airport and a small privately-owned airfield in Melton. The corridor investigations will seek to avoid and minimise potential impacts on these airports.

There are many quarries located throughout the AOI, including several large scale operations within the Bacchus Marsh locality. Smaller quarries are scattered throughout the AOI.

Many reservoirs exist within or are located adjacent to the AOI, the larger ones being Bostock Reservoir, Merrimu Reservoir, Moorabool Reservoir and White Swan Reservoir. Some of these reservoirs have picnic facilities within adjoining open space which is available to the public.

The AOI includes the existing 220kV Horsham to Ballarat transmission line. The proposed 220kV line for the Project is proposed to run alongside this line between the Waubra Terminal Station and the Bulgana Terminal Station within the Shires of Northern Grampians and Pyrenees.

The 220kV Ballarat to Bendigo transmission line currently intersects the proposed location for the new terminal station to the north of Ballarat, where the proposed 220kV and 500kV sections of the Project are proposed to connect.

The easternmost part of the AOI includes a proposed 500kV connection to the proposed North Sydenham Terminal Station next to the existing Sydenham Terminal Station. The Sydenham Terminal Station currently includes 500kV transmission line connections to the Moorabool, Keilor and South Morang Terminal Stations.

The AOI includes a potential corridor option for part of the 500kV transmission line to run alongside the existing 500kV Sydenham to Moorabool lines, as outlined in section 1.2.

A number of terminal stations and utility scale substations exist within or within 10 km of the AOI which include, but are not limited to Sydenham, Waubra, Ballarat, Elaine, Bulgana and Crowlands.

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

## Section 4

**Measures to avoid or reduce impacts**

**4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action**

AusNet Services is committed to avoiding environmental, cultural and social impacts in the first instance wherever possible, through the application of an avoidance hierarchy through the design and construction phase. This has and is being approached in the following ways:

Alignment options assessment: Through alignment selection and design, the Project will seek to avoid areas of significance. An assessment of alternative transmission line corridors in the AOI is being undertaken to explore viable corridors (refer to section 8). The alignment and the location of Project infrastructure will seek to exclude large areas with significant ecological and heritage values and avoid sensitive land uses, including:

- Public land reserved for conservation purposes including National Parks, State Parks and Nature Conservation Reserves
- Avoidance of residential zones and the urban growth area. Where planning scheme zones provide for sensitive land uses such as Residential Zones, Public Use Zones for education and community purposes and the Public Conservation and Resource Zone, these areas will be avoided.

Micro-siting: There is a degree of flexibility for the Project to site towers and the new terminal stations outside areas of known or potential sensitivity (such as wetland areas, rivers, creeks and drainage lines). The environmental objective is to avoid areas containing threatened species and ecological communities wherever possible through micro-siting of towers and increasing span length to avoid sensitive areas.

Risk Assessment: An Environmental Risk Assessment to identify areas of greatest risk and to identify mitigation and management measures to reduce risks to as low as reasonably practicable. As studies commence and progress, controls will be further developed and targeted to minimise the risk levels identified.

Environmental Management and Mitigation measures: Prior to submitting the planning scheme amendment and other approvals for the Project (refer to section 1.12), environmental management measures will be developed for construction and operation to minimise impacts on flora, fauna and cultural heritage during construction and operation to the maximum extent possible.

**4.2 For matters protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved**

As the Project progresses further in its design and investigations, opportunities to develop management measures to deliver specific environmental outcomes will be investigated. An Environmental Management Framework and Construction Environmental Management Plan will be developed and implemented. The Framework and Plan will include specific measures to mitigate impacts on matters protected under the EPBC Act.

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

## Section 5

### Conclusion on the likelihood of significant impacts

**5.1 You indicated the below ticked items to be of significant impact and therefore you consider the action to be a controlled action**

- ☐ World Heritage properties
- ☐ National Heritage places
- ☐ Wetlands of international importance (declared Ramsar wetlands)
- ☑ Listed threatened species or any threatened ecological community
- ☐ Listed migratory species
- ☐ Marine environment outside Commonwealth marine areas
- ☐ Protection of the environment from actions involving Commonwealth land
- ☐ Great Barrier Reef Marine Park
- ☐ A water resource, in relation to coal seam gas development and large coal mining development
- ☐ Protection of the environment from nuclear actions
- ☐ Protection of the environment from Commonwealth actions
- ☐ Commonwealth Heritage places overseas
- ☐ Commonwealth marine areas

**5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action**

Numerous MNES have been identified as having a moderate to high likelihood of occurrence in the AOI. The Project will aim to apply measures to avoid and minimise potential impacts to these MNES to the greatest extent practicable. However, in lieu of a more refined Project corridor, the extent of potential impacts to MNES is not able to be quantified. As such, further works are required to establish whether a significant impact may be incurred by the Project.

Whilst some impacts to EPBC Act listed threatened species and communities are likely to occur as a result of the scale of the Project, there is significant capacity to avoid and minimise potential impacts to MNES through siting of infrastructure.

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

## Section 6

**Environmental record of the person proposing to take the action**

**6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Explain in further detail**

AusNet Services has a combined Health, Safety, Environment and Quality Policy (refer to Attachment I).

AusNet Services is also accredited with BSI to the ISO 14001 Environmental Management System standard (and ISO 9001 – Quality and AS/NZS 4801 - Safety).

All environmental management at AusNet Services is detailed in the HSEQ Management System Manual.

**6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application**

AusNet Services has no current or past proceedings against them under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources.

**6.3 If it is a corporation undertaking the action will the action be taken in accordance with the corporation's environmental policy and framework?**

☑ Yes ☐ No

**6.3.1 If the person taking the action is a corporation, provide details of the corporation's environmental policy and planning framework**

AusNet Services has a combined Health, Safety, Environment and Quality Policy (refer Attachment I).

**6.4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?**

☐ Yes ☑ No

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

## Section 7

### Information sources

**Reference source**

Bernadino et al. 2018
Bird collisions with power lines: State of the art and priority areas for research
Biological Conservation

**Reliability**

Review of research into bid collisions with powerlines. High reliability.

**Uncertainties**

International review with only some Australian references.

**Reference source**

Biosis (2016a). Stockyard Hill Wind Farm Impact Assessment - Risks of Brolga collisions with external powerline. Report for Origin Energy. Biosis Pty Ltd, Melbourne

**Reliability**

High reliability.

**Uncertainties**

Comparisons between differing infrastructure.

**Reference source**

Biosis (2016b). Stockyard Hill Wind Farm Bird & Bat Impact Assessment. Assessment to Accompany Application to Amend. Planning Permit No. PL-SP/05/0548. Prepared for Origin Energy. Biosis Pty Ltd, Melbourne

**Reliability**

High reliability.

**Uncertainties**

None identified.

**Reference source**

DELWP (2017). Policy and planning guidelines - Development of wind energy facilities in Victoria. L. Department of Environment, Water and Planning, Sustainable Energy Authority Victoria.

**Reliability**

High reliability.

**Uncertainties**

None identified.

**Reference source**

DELWP Vegetation modelling
(Accessible through http://maps.biodiversity.vic.gov.au)

**Reliability**

Modelled vegetation communities across Victoria including current extent and likely pre-European settlement vegetation types. Moderate reliability.

**Uncertainties**

Vegetation types are modelled only and are subject to limited field verification.  On ground conditions on extent and vegetation type can vary from actual on ground conditions.

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

**Reference source**

Fauna refences including:
Field Guide to the Birds of Australia (Pizzey and Knight 2012)
Reptiles and Amphibians of Australia (Cogger 2014)
Field Guide to the Mammals of Australia (Menkhorst and Knight 2004)
Birdlife Australia reports for Swift Parrot including pers. comm. With Chris Timewell

**Reliability**

Include habitat descriptions of fauna that have potential to occur in the AOI. High reliability.

**Uncertainties**

Not applicable.

**Reference source**

Flora of Victoria website

**Reliability**

Provides habitat descriptions for flora within the state of Victoria.

**Uncertainties**

Not Applicable.

**Reference source**

P.D. Moloney L.F. Lumsden and I. Smales (2019). Investigation of existing post-construction mortality monitoring at Victorian wind farms to assess its utility in estimating mortality rates. 123 Brown Street, Heidelberg, Victoria 3084, Arthur Rylah Institute for Environmental Research

**Reliability**

Moderate reliability.

**Uncertainties**

Comparisons between differing infrastructure.

**Reference source**

Protected Matters Search Tool

**Reliability**

Includes information on known and modelled extent of matters of national environmental significance. High reliability.

**Uncertainties**

Modelled data identifies potential only, not known occurrence.

**Reference source**

Victorian Biodiversity Atlas
(vba.dse.vic.gov.au)

**Reliability**

Locations of flora and fauna species within Victoria that is verified by DELWP scientists. High reliability.

**Uncertainties**

Locations are recorded with a degree of error, up to 1km. Point locations for mobile species can be misleading.

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

## Section 8

**Proposed alternatives**

**Do you have any feasible alternatives to taking the proposed action?**

☑ Yes ☐ No

**8.0 Provide a description of the feasible alternative**

An assessment of alternative transmission line corridors in the AOI is being undertaken to explore alignment options to balance:

- Minimising transmission line length and consequent cost to electricity consumers
- Avoiding environmental and social impacts, and where these cannot be avoided, managing and minimising those impacts.

The consideration of no expansion of the transmission network is not a feasible alternative as the current energy network needs upgrading to more efficiently share renewable energy across Victoria, helping to unlock renewable resources in the region and maximising the productivity of existing and new energy renewable generation assets.

Spatial analysis was used to examine planning and environmental opportunities and constraints to identify feasible corridor options. Areas excluded from consideration are:

- Where planning scheme zones provide for sensitive land uses such as Residential Zones, Public Use Zones for education and community purposes and the Public Conservation and Resource Zone.
- For ecological reasons, such as public land reserved for conservation purposes such as National Parks, State Parks and Nature Conservation Reserves.
- For heritage reasons, such as land within sites on the Victorian Heritage Register.

Urban areas of Melbourne's Western Growth Area, Bacchus Marsh, Ballan, Gordon, Ballarat and Creswick and the public land reserves comprising Lerderderg State Park, Wombat State Forest, Werribee Gorge State Park and Creswick Regional Park will be avoided to the extent practicable. Whilst the AOI intersects with some of these areas, the Project will seek to avoid impacts through design and alignment selection. In highly constrained areas where there are social and environmental impacts, a balance must be found to minimise these impacts to the extent practicable.

The new 220kV transmission line is proposed to run alongside and adjacent to the existing 220kV line between the Bulgana and Waubra Terminal Stations. The towers will be positioned as close to the existing towers as allowed under the Electricity Safety (Electric Line Clearance) Regulations 2015. Where possible, each tower will be positioned in step with the existing towers to maintain the same span distance between towers to minimise environmental and social impacts. The AOI between the Bulgana and Waubra Terminal Stations allows for possible alignment variations to avoid localised constraints. From the Waubra Terminal Station, the area broadens to connect to the north and southern extent of an investigation area for a new terminal station, at a site to be determined, north of Ballarat. From this new terminal station, a 500kV transmission line will run on a west-east axis to the new North Sydenham Terminal Station.

The alternative corridors for the proposed 220kV transmission line from the Waubra Terminal Station that connect to a new terminal station north of Ballarat are:

- A northern corridor that runs in a west-east direction north of and parallel to West Berry Road, north of the towns of Allendale and Kingston, to the locality of Blampied to the new terminal station investigation area, north of Ballarat.
- A southern corridor that runs to the south of Creswick Regional Park and the town of Creswick and north of Mount Rowan and Miners Rest.

The proposed 500kV transmission line, between the new North Sydenham Terminal Station and the new terminal station to the north of Ballarat, includes two broad corridors to the north and south of Melbourne's Western Growth Area and the Bacchus Marsh/ Ballan areas.

In the northern area, a corridor between the Lerderderg State Park and north of Bacchus Marsh is being investigated. In the south, a corridor south of Werribee Gorge State Park, Bacchus Marsh, Maddingley and Bacchus Marsh Airfield.

Southern options need to head in a northerly direction to connect to the new North Sydenham Terminal Station. There are four sub-options under consideration (these are the only options that avoid direct impacts to residential zones and the urban growth area in the centre of this particular area of interest):

- A corridor that follows the proposed Outer Metropolitan Ring Road (OMR/E6) and Railway alignment, which runs through the Growth Area parallel with Plumpton Road and Troups Road South.
- A corridor that partially uses the easement of the existing 500kV transmission line from Moorabool Terminal Station to Sydenham Terminal Station.
- A corridor that consists of rural land between Long Forest Nature Conservation Reserve and Melton.

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

- A corridor that consists of rural land between Long Forest Nature Conservation Reserve and Bacchus Marsh.

**8.1 Select the relevant alternatives related to your proposed action**

- ☐ Timeframes
- ☑ Locations
- ☐ Activities

**8.4 Provide a brief physical description of the property on which the alternative proposed action will take place and the project location (e.g. Proximity to major towns, or for off-shore projects, shortest distance to mainland)**

Alternative transmission line corridors and locations for the proposed terminal station to the north of Ballarat are within the boundary of the AOI, as described in Section 3.11.

**8.5 What is the size of the development footprint or work area of the alternative?**

To be determined. The AOI is approximately 190km in length. Refer to Section1.6.

**8.6 Describe the location**

Other - The AOI extends from North Sydenham to Bulgana, in Western Victoria.

**8.7 Is there a different local government area and council contact for the alternative?**

☐ Yes ☑ No

**8.8 Provide details of the context, planning framework and State/Local Government requirements**

Refer to section 1.12, as the AOI includes the alternative alignment options.

**8.9 Describe any public consultation that has been, is being or will be undertaken (including with Indigenous stakeholders)**

Refer to section 1.13, as the AOI includes alternative alignment options.

**8.10 Describe any environmental impact assessments that have been, is being or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project for the alternative**

Refer to section 1.14, as the AOI includes the alternative alignment options.

**8.11 Is this action part of a staged development (or a component of a larger project)?**

☐ Yes ☑ No

**8.12 Nominate any matters of National Environmental Significance that are likely to be impacted by this alternative proposal by ticking the relevant checkboxes**

- ☑ Listed threatened species or any threatened ecological community
- ☑ Listed migratory species

**8.12.1 Provide further information on potential impacts of matters of environmental significance that you have nominated above**

Refer to sections 2.4 – 2.5, as the AOI includes the alternative alignment options. The potential for impact to listed threatened species and ecological communities and listed migratory species is likely to remain regardless of the alignment option, however the number of species potentially impacted and the likelihood and severity of impact will differ depending on the alignment considered.

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

**8.13 Describe any impacts on the flora and fauna relevant to the alternative proposal**

Refer to section 3.1, as the AOI includes the alternative alignment options.

**8.14 Describe the hydrology relevant to the alternative proposal (including water flows)**

Refer to section 3.2, as the AOI includes the alternative alignment options.

**8.15 Describe the soil and vegetation characteristics relevant to the alternative proposal**

Refer to section 3.3, as the AOI includes the alternative alignment options.

**8.16 Describe any outstanding natural features and/or unique values relevant to the alternative proposal**

Refer to section 3.4, as the AOI includes the alternative alignment options.

**8.17 Describe the remnant native vegetation relevant to the alternative proposal**

Refer to section 3.5, as the AOI includes the alternative alignment options.

**8.18 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the alternative proposal**

Refer to section 3.6, as the AOI includes the alternative alignment options.

**8.19 Describe the current state of the environment relevant to the alternative proposal**

Refer to section 3.7, as the AOI includes the alternative alignment options.

**8.20 Describe any Commonwealth Heritage places or other places recognised as having heritage values relevant to the alternative proposal**

Refer to section 3.8, as the AOI includes the alternative alignment options.

**8.21 Describe any Indigenous heritage values relevant to the alternative proposal**

Refer to section 3.9, as the AOI includes the alternative alignment options.

**8.22 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the alternative proposal**

Refer to section 3.10, as the AOI includes the alternative alignment options.

**8.23 Describe any existing or any proposed uses relevant to the alternative proposal**

Refer to section 3.11, as the AOI includes the alternative alignment options.

**8.25 Do you have another alternative?**

☐ Yes ☑ No

Australian Government
Department of Agriculture, Water and the Environment

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

## Section 9

## Person proposing the action

**9.1.1 Is the person proposing the action a member of an organisation?**

☑ Yes ☐ No

### Organisation

| | |
|---|---|
| **Organisation name** | AUSNET TRANSMISSION GROUP PTY LTD |
| **Business name** | |
| **ABN** | 78079798173 |
| **ACN** | |
| **Business address** | L26, 2 Southbank Boulevard, Southbank, 3006, Victoria, Australia |
| **Postal address** | |
| **Main Phone number** | 1300 735 328 |
| **Fax** | |
| **Primary email address** | tara.horsnell@ausnetservices.com.au |
| **Secondary email address** | |

**9.1.2 I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:**

☐ Small business
☑ Not applicable

**9.1.2.2 I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations ***

☐ Yes ☑ No

### 9.1.3 Contact

| | |
|---|---|
| **First name** | Francisco |
| **Last name** | Vizcaino |
| **Job title** | Project Director |
| **Phone** | 1300735328 |
| **Mobile** | |
| **Fax** | |
| **Email** | francisco1.vizcaino@ausnetservices.com.au |
| **Primary address** | L26, 2 Southbank Boulevard, Southbank, 3006, Victoria, Australia |
| **Address** | |

### Declaration: Person proposing the action

**I,** Francisco Vizcaino **, 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.**

**Signature:** ..... **Date:** 28 July 2020

**I,** Francisco Vizcaino **, the person proposing the action, consent to the designation of** Francisco Vizcaino **as the proponent for the purposes of the action described in this EPBC Act Referral.**

**Signature:**.....**Date:** 28 July 2020

Australian Government
Department of Agriculture, Water and the Environment

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# Proposed designated proponent

**9.2.1 Is the proposed designated proponent a member of an organisation?**

☑ Yes ☐ No

## Organisation

| | |
|---|---|
| **Organisation name** | AUSNET TRANSMISSION GROUP PTY LTD |
| **Business name** | |
| **ABN** | 78079798173 |
| **ACN** | |
| **Business address** | L26, 2 Southbank Boulevard, Southbank, 3006, Victoria, Australia |
| **Postal address** | |
| **Main Phone number** | 1300 735 328 |
| **Fax** | |
| **Primary email address** | francisco1.vizcaino@ausnetservices.com.au |
| **Secondary email address** | |

## 9.2.2 Contact

| | |
|---|---|
| **First name** | Francisco |
| **Last name** | Vizcaino |
| **Job title** | Project Director |
| **Phone** | 1300 735 328 |
| **Mobile** | |
| **Fax** | |
| **Email** | francisco1.vizcaino@ausnetservices.com.au |
| **Primary address** | L26, 2 Southbank Boulevard, Southbank, 3006, Victoria, Australia |
| **Address** | |

## Declaration: Proposed Designated Proponent

**I,** Francisco Vizcaino **,the proposed designated proponent, consent to the designation of myself as the proponent for the purposes of the action described in this EPBC Act Referral.**

**Signature:** ..... **Date:** 28 July 2020

Australian Government
Department of Agriculture, Water and the Environment

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## Referring party (person preparing the information)

**9.3.1 Is the referring party (person preparing the information) a member of an organisation?**

☑ Yes ☐ No

### Organisation

| | |
|---|---|
| **Organisation name** | AUSNET TRANSMISSION GROUP PTY LTD |
| **Business name** | |
| **ABN** | 78079798173 |
| **ACN** | |
| **Business address** | L26, 2 Southbank Boulevard, Southbank, 3006, Victoria, Australia |
| **Postal address** | |
| **Main Phone number** | 1300 735 328 |
| **Fax** | |
| **Primary email address** | tara.horsnell@ausnetservices.com.au |
| **Secondary email address** | |

### 9.3.2 Contact

| | |
|---|---|
| **First name** | Tara |
| **Last name** | Horsnell |
| **Job title** | Planning and Environment Lead |
| **Phone** | 1300 735 328 |
| **Mobile** | |
| **Fax** | |
| **Email** | tara.horsnell@ausnetservices.com.au |
| **Primary address** | L26, 2 Southbank Boulevard, Southbank, 3006, Victoria, Australia |
| **Address** | |

### Declaration: Referring party (person preparing the information)

**I,** Tara Horsnell **, 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.**

**Signature:** ..... **Date:** 28 July 2020

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## Appendix A

### Attachment

| Document Type | File Name |
|---|---|
| action_area_images | Attachment A - Indicative tower heights and spans.pdf |
| action_area_images | Attachment B - Area of Interest_WVTNP_WR102_AoI_Overview.pdf |
| localgov_approval_consent | Attachment C - Council Contact Officers.pdf |
| localgov_approval_consent | Attachment C - Council Contacts.pdf |
| public_consultation_reports | Attachment D - Stakeholder engagement overview.pdf |
| supporting_tech_reports | Attachment E - EPBC Act Protected Matters Report.pdf |
| supporting_tech_reports | Attachment F - EPBC Act listed threatened species.pdf |
| supporting_tech_reports | Attachment G - EPBC listed TECs with potential to occur within the AOI.pdf |
| supporting_tech_reports | Attachment H - EPBC Act listed Migratory species.pdf |
| corp_env_policy_docs | Attachment I - AusNet HSEQ Policy.pdf |

## Appendix B

### Coordinates

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