

Wangara to Neerabup Terminal 132 kV Overhead Transmission Line

Proposal Content Document

Table 1: General proposal content description

Proposal title	Wangara to Neerabup Terminal 132 kV Overhead Transmission Line
Proponent name	Electricity Networks Corporation trading as Western Power (Western Power) (ABN 18 540 492 861)
Short description	<p>The Wangara to Neerabup Terminal 132 kV Overhead Transmission Line proposal (the Proposal) is located 17.5 km north of Perth CBD in the City of Wanneroo. The Proposal is for the construction of a dual circuit 132 kilovolt (kV) transmission line from Neerabup Terminal (Ziatis Road, Pinjar) to intersect an existing transmission line (MUL-WGA 81) at the intersection of Ocean Reef Road and Wanneroo Road, Woodvale, a length of approximately 23 kilometres (km).</p> <p>Enabling works will occur along the proposed line route, involving the relocation and/or undergrounding of existing customer connections, distribution lines and utility assets to facilitate the construction and future operation of the new 132 kV transmission line.</p> <p>The Proposal is part of the South West Interconnected System Transmission Plan, which sets out the State Government’s vision for Western Power’s transmission network and builds on extensive modelling and system planning carried out in the Whole of System Plan 2020, the South West Interconnected System Demand Assessment: 2023 and 2024, and the South West Interconnected System Planning Update. The Proposal will create new circuits between Neerabup Terminal and the connecting zone substations to improve utilisation of the 330 kV and 132 kV networks in transferring electricity generated from the Mid-West to supply Perth’s northern suburbs.</p>

Table 2: Proposal content elements

Proposal element	Location / description	Maximum extent, capacity or range
Physical elements		
<p>The transmission line comprises the following physical components:</p> <ul style="list-style-type: none"> Transmission infrastructure (for the purposes of this referral 171 steel poles are assumed) 132 kV conductors (dual circuit) 	<p>Within the Proposal Development Envelope. Refer to Attachment 1 Figure 1</p>	<p>A Proposal Development Envelope (PDE) of 75.71 hectares (ha).</p> <p>An Impact Area of 31.71 ha within the PDE, comprised of:</p> <ul style="list-style-type: none"> 13.34 ha of native vegetation 18.37 ha of non-native vegetation

<ul style="list-style-type: none"> • Optical Ground Wire (OPGW) • Permanent maintenance access track • Vegetation clearance zone 		
Construction elements		
Installation of pole foundations.	Within the Proposal Development Envelope. Refer to Attachment 1 Figure 1	Installation of pole foundations. Construction will take approximately <1.5 years.
Operational elements		
Transmission infrastructure	Within the Proposal Development Envelope. Refer to Attachment 1 Figure 1	Operation and maintenance of transmission infrastructure
Proposal elements with greenhouse gas emissions		
Construction elements:		
Scope 1	3,500 t CO ₂ -e/yr Scope 1 emissions have been calculated using emission factors as per the National Greenhouse and Energy Reporting (Measurement) Determination based on available project projections and/or existing operational data for fuel use (transport and stationery) and land clearing. Supporting documentation can be provided on request due to commercially sensitive information used in emissions modelling.	
Scope 2	Nil	
Scope 3	N/A Scope 3 emissions are excluded in this estimate due to the lack of consistent available methods to provide a reliable estimate across the range of associated Scope 3 categories associated with the Proposal.	
Operation elements:		
Scope 1	25 t CO ₂ -e/yr Scope 1 emissions have been calculated using emission factors as per the National Greenhouse and Energy Reporting (Measurement) Determination based on available existing operational data for fuel use associated with operational and maintenance activities (transport) proportional to these activities across all network operations.	

Scope 2	2,500 t CO ₂ -e/yr Based on electricity losses during transmission (line losses). Scope 2 emissions have been calculated as per the National Greenhouse and Energy Reporting (Measurement) Determination 2008, Method A1 for estimating emissions from electricity consumption. 2,500 t CO ₂ -e represents year one losses. Scope 2 emissions are projected to decrease year on year as this project, together with other network augmentation projects facilitates further connection of renewable energy generation to the South West Interconnected System.	
Scope 3	N/A Scope 3 emissions are excluded in this estimate due to the lack of consistent available methods to provide a reliable estimate across the range of associated Scope 3 categories associated with the Proposal.	
Rehabilitation		
Areas cleared for temporary construction activities will be identified and rehabilitated following the completion of construction.		
Commissioning		
Commissioning will include testing and assurance at the end of construction, these activities are included in the extent of construction elements.		
Decommissioning		
Decommissioning is not anticipated within the life of the asset (>50 years). Prior to the end of design life, the transmission line and associated infrastructure will be reviewed to determine the ongoing needs of the network and whether assets will be removed, upgraded or replaced.		
Other elements which affect extent of effects on the environment		
Proposal time*	Maximum project life	Permanent Infrastructure (>50 years)
	Construction phase	1-1.5 years
	Operations phase	>50 years (design life)
	Decommissioning phase	N/A

* Proponents should only provide realistic timeframes to avoid unnecessary change to proposal applications at referral (section 38C), assessment (section 43A) or post assessment (section 45C).