



HumeLink

Submissions Report



Executive summary

Overview

Transgrid proposes to increase the energy network capacity in southern New South Wales (NSW) through the development of new 500 kilovolt (kV) high-voltage transmission lines and associated infrastructure between Wagga Wagga, Bannaby and Maragle. This project is collectively referred to as HumeLink. The project would be located across six Local Government Areas (LGAs) including Wagga Wagga City, Snowy Valleys, Cootamundra-Gundagai Regional, Upper Lachlan Shire, Yass Valley and Goulburn Mulwaree.

HumeLink is a priority project for the Australian Energy Market Operator (AEMO) and the Commonwealth and NSW governments and has been declared as Critical State Significant Infrastructure (CSSI). The project would deliver a cheaper, more reliable and more sustainable grid by increasing the amount of renewable energy that can be delivered across the national electricity grid, helping to transition Australia to a low carbon future.

Without HumeLink, the electricity supply in NSW will become unreliable as coal-fired generators are retired. HumeLink will play such an important role in bringing consumers more affordable, reliable and renewable energy that it has been declared Critical State Significant Infrastructure. The net market benefits associated with the project are estimated at more than \$1 billion (Transgrid, 2024b).

Purpose of this report

An Environmental Impact Statement (EIS) was prepared to support Transgrid's application for approval of the project in accordance with Part 5, Division 5.2 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) and was placed on public exhibition between 30 August 2023 and 10 October 2023. This Submissions Report responds to the submissions made during the public exhibition period. It explains who made submissions, what issues they raised and what updated mitigation measures have been made in response.

After considering issues raised in the submissions, as well as stakeholder feedback before and during the public exhibition, and design and construction methodology development, Transgrid is proposing several amendments and refinements to the project. These changes are detailed in a separate Amendment Report, which also describes any different or new impacts arising out of the proposed amendments and refinements and how those impacts would be managed and mitigated.

This Submissions Report should be read in conjunction with the Amendment Report, which includes additional assessment and assessment clarifications in response to particular submissions.

Overview of submissions

One hundred and fifty submitters made 158 submissions, comprising:

- 18 from government agencies and public authorities
- seven from five local councils and the Canberra Region Joint Organisation
- 133 from the community, including 12 from organisations.

The 133 submissions from the community and organisations came from 126 submitters. Of the 126 submitters, two supported the project, 14 provided comments on the project and 110 objected to the project. Wagga Wagga City Council and the Canberra Region Joint Organisation also objected to the project.

Issues raised

Community and **organisation** submissions mostly raised issues about the project's environmental, social and economic impacts (more than 70 per cent of issues). The top issues included:

1. **land use and property**, primarily relating to impacts on agricultural operations and local and regional productivity and how these impacts would be managed
2. **landscape character and visual amenity**, primarily relating to the operational impacts of the proposed transmission line and the methodology for the assessment
3. **hazards and risks**, primarily relating to the increased risk of bushfires and impacts to firefighting operations, and risks associated with electric and magnetic fields
4. **biodiversity**, primarily relating to the magnitude of biodiversity impacts, eg the extent of clearing and impacts to threatened species and ecological communities, and the methodology used in the assessment
5. **undergrounding**, relating to a preference for undergrounding the proposed transmission line.

This report presents each issue in community and organisation submissions as a summary of similar issues raised by individual submissions and responds to grouped issues.

Submissions from **government agencies** and **public authorities** generally related to the specific agency or public authority focus or their assets potentially being impacted by the project. Submissions from local councils and Canberra Region Joint Organisation raised several similar issues, including:

- concerns about the impact of construction vehicles and how local roads would be maintained
- concerns about potential landscape character and visual amenity impacts and how impacts would be managed for residents in their LGA
- concerns about worker accommodation facilities and the interactions between the construction workforce and local communities
- the need for Transgrid to establish a Community Enhancement Fund for the project.

This report responds to each issue raised by government agencies, public authorities and local councils.

Mitigation and management

The EIS outlined the approach to environmental management of the project and identified the mitigation measures that would be implemented to address potential impacts of the project. Some mitigation measures presented in the EIS have been revised and some new mitigation measures have been added based on the issues raised in submissions and consideration of the proposed amendments and refinements to the project.

Next steps

Transgrid has considered the issues raised in submissions and provided responses in this Submissions Report. Department of Planning, Housing and Infrastructure (DPHI) will review this report alongside the EIS and the Amendment Report.

DPHI will prepare an assessment report for consideration by the Minister for Planning and Public Spaces, who will then decide whether or not to approve the amended project. If the amended project is approved, DPHI's assessment report and any NSW conditions of approval will be sent to the Commonwealth Minister for the Environment and Water, who will also decide on whether the amended project should be approved and, if so, what Commonwealth conditions (if any) should be attached.

If the amended project is approved, Transgrid will continue to consult with community members, government agencies and other stakeholders during the further design development and construction of the amended project to continue to manage and mitigate impacts where possible.

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Abbreviations

Acronym	Description
AAAA	Airservices Australia and Aerial Application Association of Australia
AC	Alternating current
ACHAR	Aboriginal Cultural Heritage Assessment Report
ACHMP	Aboriginal Cultural Heritage Management Plan
ACT	Australian Capital Territory
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AHIMS	Aboriginal Heritage Information Management System
AHMP	Aboriginal Heritage Management Plan
AIP	Aquifer Interference Policy
ALA	Aircraft landing area
ALC	Aboriginal Land Claim
ANO	Authorised Network Operator
APZ	Asset Protection Zone
ARTC	Australian Rail Track Corporation
BAL	Bushfire Attack Level
BAM	Biodiversity assessment method
BCS	Department of Planning and Environment – Biodiversity, Conservation and Science Directorate
BC Act	<i>Biodiversity Conservation Act 2016</i>
BDAR	Biodiversity Development Assessment Report
BFEMEP	Bush Fire Emergency Management and Evacuation Plan
BMP	Biodiversity Management Plan
BRAG	Bannaby Residents Action Group
BRMP	Bushfire Risk Management Plan
BSAL	biophysical strategic agricultural land
CASA	Civil Aviation Safety Authority
CCG	Community Consultative Group
CEMP	Construction Environmental Management Plan
CIS	Community information sessions
CPI	Consumer Price Index
CRJO	Canberra Region Joint Organisation
CRN	Country Rail Network
CSSI	Critical State Significant Infrastructure
CVA	Cultural Values Assessment
DC	Direct current
DCCEEW	Department of Climate Change, Energy, the Environment and Water

Acronym	Description
DPE	Department of Planning and Environment
DPHI	Department of Planning, Housing and Infrastructure
DPI	Department of Primary Industries
DPI Fisheries	Department of Primary Industries - Fisheries
ECZ	easement clearing zone
EIS	Environmental Impact Statement
ELF	extremely low frequency
EMF	electric and magnetic fields
EnergyCo	Energy Corporation of NSW
EPA	Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPL	Environmental Protection Licence
ESCP	Erosion and Sediment Control Plan
EWMP	Enabling Works Management Plan
FCNSW	Forestry Corporation of NSW
FMP	Fire Management Plan
FRNSW	Fire and Rescue NSW
GDE	Groundwater dependent ecosystem
GHG	Greenhouse gas
GIS	Geographic information system
GRP	Gross Regional Product
GVA	Gross Value Added
HTZ	hazard tree zone
HVAC	High voltage alternating current
HVDC	High voltage direct current
IAQM	Institute of Air Quality Management
IBRA	Interim Biogeographical Regionalisation of Australia
ICNG	International Construction Noise Guideline
ICNIRP	International Commission on Non-Ionising Radiation Protection
IGAE	Inter-governmental Agreement on the Environment
ISP	Integrated System Plan
KFH	Key Fish Habitat
km	Kilometres
kV	Kilovolt
LALC	Local Aboriginal Land Council
LCVIA	Landscape Character and Visual Impact Assessment
LEP	local environmental plan
LGA	Local Government Area

Acronym	Description
LiDAR	light detection and ranging
LLS	Local Land Services
MEG	Mining, Exploration and Geoscience NSW
ML	Megalitres
MNES	Matters Of National Environmental Significance
NEM	National Electricity Market
NEPM	<i>National Environment Protection Assessment of Site Contamination Measure 1999</i>
NGS	<i>National Greenhouse Strategy 1998</i>
NMLs	Noise management levels
NOA	naturally occurring asbestos
NPfl	Noise Policy for Industry
NPV	Net present value
NPWS	National Parks and Wildlife Service
NSESD	<i>National Strategy for Ecologically Sustainable Development 1992</i>
NSW	New South Wales
NSWALC	New South Wales Aboriginal Land Council
NSW RFS	NSW Rural Fire Service
NSWTA	New South Wales Telco Authority
NVMP	Noise and Vibration Management Plan
NWQMS	<i>National Water Quality Management Strategy 2018</i>
OLS	Obstacle Limitation Surface
OSOM	oversized and/or overmass
PACR	Project Assessment Conclusion Report
PAD	Potential Archaeological Deposit
PBP	Planning for Bush Fire Protection
PMF	Probable Maximum Flood
PNTLs	Project Noise Trigger Level
PSN	Public Safety Network
RACH	Remote Access Community Hub
RAP	Registered Aboriginal Parties
REZ	renewable energy zone
RF	radio frequency
RFS	Rural Fire Service
RIT-T	Regulatory Investment Test for Transmission
RNP	Road Noise Policy
SBP	Strategic Benefit Payment
SEARs	Planning Secretary's Environmental Assessment Requirements
SHR	State Heritage Register
SIA	social impact assessment

Acronym	Description
SSAL	State significant agricultural land
SSI	State Significant Infrastructure
SWMP	Soil and Water Management Plan
SWMS	Safe Work Method Statements
TAHE	Transport Asset Holding Entity
TBDC	Threatened Biodiversity Data Collection
TEC	threatened ecological community
TCFD	Task Force On Climate-Related Financial Disclosure
TfNSW	Transport for NSW
TLSA	transmission line surge arrester
TSR	Travelling Stock Reserve
TMP	Traffic Management Plans
TTMP	Traffic and Transport Management Plan
UGLRL	UGL Regional Linx
Upper Lachlan LEP	Upper Lachlan Shire Local Environmental Plan 2013
USB	Universal Serial Bus
VCR	Vegetation Clearance Requirements
VFR	visual flight rules
VRZ	Vegetated Riparian Zone
WAD	Works Authorisation Deed
WAL	Water Access Licence
WAP	Weed Action Plan
WHO	World Health Organisation
WSE	Work Health, Safety and Environmental
WSP	Water Sharing Plan

Glossary of terms

Term	Description
access routes	Roads providing the access to and from the project footprint.
aerodrome	Areas that are suitable for the arrival, departure and surface movement of aircraft.
amenity	' <i>The pleasantness of a place as conveyed by desirable attributes including visual, noise, odour etc.</i> ' (Australian Institute of Landscape Architects QLD, 2018).
amended project (the)	The CSSI project "HumeLink", which is the subject of the Amendment Report and inclusive of the proposed amendments and project refinements to the project as described in the EIS. The project involves the construction and operation of high voltage transmission lines and associated infrastructure between Wagga Wagga, Bannaby and Maragle.
amended project footprint (the)	The area that has been assumed for the purpose of the Amendment Report to be directly affected by the construction and operation of the project. It includes the indicative location of project infrastructure, the area that would be directly disturbed during construction and any easement required during operation.
amendment	A change in what the proponent is seeking approval for following the exhibition of the EIS. It requires changes to the project description in the EIS and amendments to the associated infrastructure application.
amenity	' <i>The pleasantness of a place as conveyed by desirable attributes including visual, noise, odour etc.</i> ' (Australian Institute of Landscape Architects QLD, 2018).
areas of environmental concern	Potential contamination sources are referred to as areas of environmental concern.
Asset Protection Zone	A bushfire protection measure, providing a buffer around assets. Asset Protection Zones (APZs) are designed and maintained to reduce fuel near assets, and to reduce the potential for damage from direct flame contact, smoke, radiant heat, and ember attack. The dimensions for APZs are designed in line with <i>Planning for Bush Fire Protection: A guide for councils, planners, fire authorities and developers</i> (NSW RFS, 2019), and are determined by surrounding vegetation type, slope, and the type of asset/development.
beneficial reuse	Reusing a waste material that would otherwise be discarded.
brake and winch site	A brake and winch site is a temporarily cleared area where plant and equipment are located to spool and winch conductors into place on transmission line structures. The locations of the brake and winch sites may or may not be within the nominated transmission line easement. These sites are only required for construction of the project and do not need to be maintained during operation.
bushfire	An uncontrolled fire in a bush area.
Bushfire Attack Level	A way of measuring the severity of potential ember attack, radiant heat, and direct flame contact, to a building. The BAL is used to specify the construction requirements necessary to protect buildings from bushfire in accordance with <i>AS3959:2018 Construction of Buildings in Bushfire-Prone Areas</i> and the <i>National Construction Code</i> (Australian Building Codes Board, 2019).
climate change	A change in global or regional climate patterns, in particular a change apparent from the mid to late 20th century onwards and attributed, largely, to the increased levels of atmospheric greenhouse gases.
compost	Decaying organic matter used as fertiliser for vegetation.

Term	Description
construction compounds	<p>Main construction compounds proposed for construction of the project. Each construction compound would accommodate a range of facilities which may include (but not limited to):</p> <ul style="list-style-type: none"> • laydown areas • site offices • amenities • construction support facilities such as vehicle and equipment storage, maintenance sheds, chemical/fuel stores and stockpile areas • concrete batching plants • helipads • crushing/screening plants • parking.
Construction Environmental Management Plan	<p>A Construction Environmental Management Plan (CEMP) describes how activities undertaken during the construction phase of development would be managed to avoid or mitigate impacts, and how those environmental management requirements would be implemented.</p>
consumption induced impacts	<p>Consumption induced impacts in the locality or region refer to the additional economic activity generated from increased demand for goods and services from the project workers earning wages. These workers would generate demand in the region for accommodation, food, commercial and personal services, transport, etc.</p>
Critical State Significant Infrastructure	<p>Critical State Significant Infrastructure (CSSI) projects are high priority infrastructure projects that are essential to the State for economic, social or environmental reasons.</p>
double-circuit transmission lines	<p>A double circuit transmission line carries six conductors (ie two circuits) on a single transmission line structure</p>
easement clearing zone	<p>The vegetation zones along the transmission line easements which would require the clearing and ongoing maintenance of tall growing vegetation that may intrude on the vegetation clearance requirements at maximum line operating conditions (maximum conductor sag and maximum conductor blowout) at that location at the time of construction of the project, or at any time in the future. To minimise impacts on biodiversity and ground stability within this zone, ground cover vegetation would be retained, with partial mid-storey removal required along with complete removal of the canopy layer.</p>
EIS indicative disturbance area	<p>The area of land that would be temporarily or permanently cleared for the project including:</p> <ul style="list-style-type: none"> • construction and operation of all proposed infrastructure elements (including the proposed transmission line and structures, substation site work, telecommunications hut and other ancillary work) • construction elements such as construction compounds and worker accommodation facility, access tracks and brake/winch sites. <p>The area is identified based on concept designs developed by the contractors however it is indicative at this stage. The final disturbance area would be confirmed during finalisation of the design and construction methodology and would be developed as part of the consideration of avoidance and impact minimisation.</p> <p>This indicative disturbance area includes areas required for operation and maintenance.</p>
EIS project (the)	<p>The CSSI project “HumeLink”, which is the subject of this EIS. The project involves the construction and operation of high voltage transmission lines and associated infrastructure between Wagga Wagga, Bannaby and Maragle.</p>
EIS project footprint (the)	<p>The area that was assumed for the purpose of the EIS to be directly affected by the construction and operation of the project. It includes the indicative location of project infrastructure, the area that would be directly disturbed during construction and any easement required during operation.</p>
electric and magnetic fields	<p>Electric and magnetic fields (EMF) are part of the natural environment and are present in the earth’s core and the atmosphere. These fields are also produced wherever electricity or electrical equipment is used.</p>

Term	Description
flood immunity	Not affected by flooding for a specified flood event.
future Maragle 500 kV substation	The future Maragle 500/330 kV substation that would be built under the approved Snowy 2.0 Transmission Connection Project, which is subject to a separate planning approval (reference SS1-9717, EPBC 2018/836).
green waste	Any organic waste or material that can be composted. Green waste includes garden and grass clippings or leaves, shrubs, branches, woodchips, bark, wood, palm trees and branches and weeds.
greenhouse gas	A gas that absorbs and emits radiant energy within the thermal infrared range.
gross regional product	A measure of size or net wealth generated by the local economy.
hazard tree	A hazard tree is defined as a tree or part of tree that if it were to fall would infringe on the vegetation clearance requirements at maximum conductor sag of the transmission lines.
historic item	An item that is of historic heritage significance. Historic heritage is non-Aboriginal heritage.
HumeLink	The project
hydraulics	The science of water movement along channels, floodplains, pipes and other structures that convey water.
hydrology	Assessment of rainfall and runoff processors in a catchment area.
issue-specific cumulative impact assessment	Issue-specific cumulative impact assessment approach involves considering the impacts of the project together with the impacts of other relevant future projects on specific issues (key matters) within an identified area (DPE, 2022a).
job years	A job year is one full-time equivalent job over one year. This is used to measure jobs generated and supported in design and construction. This unit of measure is better than jobs because construction has a short life and hence the jobs are not permanent. Dividing the number of job years by the number of years of construction gives the average number of jobs during construction.
key communities	The key communities include the towns and urban centres within the social locality which are most likely to experience direct impacts relating to the accommodation of non-resident workers – including availability of housing, impacts to the economy and access to social infrastructure and services.
Key Fish Habitat	Key Fish Habitat (KFH) is aquatic habitat that are important to the sustainability of the recreational and commercial fishing industries, the maintenance of fish populations generally, and the survival and recovery of threatened aquatic species.
landowners	People who own properties/land
landscape	<i>'All aspects of a tract of land, including landform, vegetation, buildings, villages, towns, cities and infrastructure.'</i> (TfNSW, 2020)
landscape character	The <i>'combined quality of built, natural and cultural aspects which make up an area and provide its unique sense of place'</i> . (TfNSW, 2020)
landscape character zone	<i>'An area of landscape with similar properties or strongly defined spatial qualities, distinct from areas immediately nearby.'</i> (TfNSW, 2020)
level of Service	A measure of the performance of a road network which typically considers an assessment of various factors including speed, volume of traffic, geometric features, traffic interruptions, delays, and freedom to manoeuvre.
locality	The project footprint and surrounds, nominally a 10 kilometre buffer from the edge of the project footprint. The locality is predominantly used in reviewing available data, existing reports, and database searches for the biodiversity assessment.
micro-siting	Micro-siting is a detailed design process to determine the specific location of transmission line structures or other project infrastructure within a broader assessed footprint. The process considers local environmental and engineering constraints to minimise environmental impacts when determining the final locations.

Term	Description
mulch	Material such as decaying leaves, bark and compost that is typically spread around a plant or tree to enrich or insulate the soil.
near neighbours	Landowners who are not easement affected and outside of the project footprint who might experience construction or operation impacts as a result of the project.
NSW EPA Resource Recovery Order	Resource recovery orders are made by the NSW EPA under the POEO Regulation to allow certain waste to be beneficially reused. Generators and processors of waste to which a resource recovery order applies must meet all the conditions of an order to supply a resource recovery waste to a consumer (refer to clauses 91, 92 and 93 of the POEO Regulation).
OLS	Defines the airspace surrounding an airport that must be protected from obstacles to ensure aircraft flying in good weather during the initial stages and final stages of a flight, or in the vicinity of the airport, can do so safely.
oversized and/or over mass	A heavy vehicle carrying, or designed for the purpose of carrying, a large item that cannot be divided without extreme effort, expense or risk of damage to it, or cannot be carried on any heavy vehicle without contravening a mass requirement or dimension requirement.
PANS-OPS	A traffic control acronym which stands for Procedures for Air Navigation Services – Aircraft Operations.
particulate matter	A category of airborne particles which is classified in relation to its size as either: <ul style="list-style-type: none"> • PM₁₀ particles which are sufficiently small enough to penetrate the large airways of the lungs • PM_{2.5} particles which are generally small enough to be drawn in and deposited into the deepest portions of the lungs.
Proponent	The entity seeking approval for the CSSI application, which, for the HumeLink project is NSW Electricity Networks Operations Pty Ltd (referred to as Transgrid).
Proposed Gugaa 500 kV substation	The new 500/330 kV substation proposed near Wagga Wagga.
refinement	An aspect of the project that is more specific than what has been described in the EIS and fits within the limits set by the project description and does not change what is being sought for approval for or require an amendment to the infrastructure application for the project.
restricted access vehicle	Any vehicle which exceeds the overall dimensions of vehicles as defined in the Heavy Vehicle National Law (NSW).
Scope 1 emissions	Direct GHG emissions released to the atmosphere as a direct result of an activity, or series of activities at a facility level.
Scope 2 emissions	Indirect GHG emissions released to the atmosphere from the indirect consumption of an energy commodity.
Scope 3 emissions	Indirect GHG emissions other than Scope 2 emissions that are generated in the wider economy that occur as a consequence of the activities of a facility, but from sources not owned or controlled by that facility's business.
sensitive receptor	A location where people are likely to work or reside; this may include a dwelling, school, hospital, office or public recreational area.
sensitivity (of a landscape or view)	'Susceptibility of a landscape or receptor to accommodate change without losing valued attributes.' (Australian Institute of Landscape Architects QLD, 2018) 'The sensitivity of a landscape character zone or view is 'its capacity to absorb change'. (TfNSW, 2020)
single-circuit transmission lines	A single circuit transmission line has three conductors or wires (i.e. one circuit) carried on a single transmission line structure.
social impacts	The consequences experienced by individuals, households, groups, communities, or organisations as a result of the project.

Term	Description
social locality	A social study area has been defined based on the scale and nature of the predicted social impacts of the project and the considerations in the SIA Guideline. The social study area may also be referred to as the 'social locality' as indicated in the SIA Guideline.
social infrastructure	Community facilities and services which meet social needs and community wellbeing.
spoil	Excavated soil and rock
Strahler stream order	Strahler stream order classification is a 'top down' system in which streams of the first order have no upgradient streams flowing into them (DPI 2018). If two streams of the same order merge, the resulting stream is given a number that is one higher. If two rivers with different stream orders merge, the resulting stream is given the higher of the two numbers. Under the Strahler stream order classification, 1st to 3rd order streams are called headwater streams. Streams classified as 4th through 6th order are medium streams and streams that are 7th order or larger are a river.
survey area	An area identified by different technical disciplines where surveys and investigative works have occurred.
telecommunications hut	The proposed optical repeater telecommunications hut as part of HumeLink, which is required to boost the signal in the optical fibre ground wire.
Tier 1 and 2 constraints	Criteria considered during the study corridor identification and route options assessment processes. These included technical, environmental, property, community and cost considerations. Constraints include no-go areas, areas to be avoided, or where impacts should be minimised.
Transgrid	The project is proposed to be undertaken by NSW Electricity Networks Operations Pty Ltd (referred to as Transgrid). Transgrid is the operator and manager of the main high voltage transmission network in NSW and the ACT, and is the Authorised Network Operator for the purpose of an electricity transmission or distribution network under the provisions of the <i>Electricity Network Assets (Authorised Transactions) Act 2015</i> .
transmission line corridor	An area generally 200 metres wide that the transmission line route and easement would be located within
transmission line easement	A legal right attached to a parcel of land that enables the non-exclusive use of the land by a third party other than the owner. For transmission lines, an easement defines the corridor area where the lines are located and that allows access, construction and maintenance work to take place. The easements for the 500 kV transmission lines would typically be 70 metres wide. However, a few select locations would require wider easements up to 130 metres wide for specific engineering or property reasons. The easement grants a right of access and for construction, maintenance and operation of the transmission line and other operational assets.
transmission line route	The location of the transmission line structures along the middle of the transmission line easement.
transmission line structure	Proposed free standing structures to support the transmission lines.
transposition	Transposition is the periodic swapping of positions of conductors on a transmission line in order to improve transmission reliability.
unserved energy	A measure of the amount of customer demand that cannot be supplied within a region due to a shortage of generation, demand-side participation or interconnector capacity (AEMO, 2019).
view	<i>'Any sight, prospect or field of vision as seen from a place, and may be wide or narrow, partial or full, pleasant or unattractive, distinctive or nondescript, and may include background, mid ground and/or foreground elements or features.'</i> (Australian Institute of Landscape Architects QLD, 2018)
viewpoint	<i>'The specific location of a view, typically used for assessment purposes.'</i> (Australian Institute of Landscape Architects QLD, 2018)
visual flight rules	A set of regulations under which a pilot operates an aircraft in weather conditions generally clear enough to allow the pilot to see where the aircraft is going.

Term	Description
voluntary load curtailment	The voluntary specific removal or reduction of electrical loads for a limited period of time from a utility grid system in response to a request from the utility or electrical grid system operator.
Wagga 330 kV substation	The existing 330/132 kV substation located in Wagga Wagga
water quality objectives	Water quality objectives are long-term goals for water quality management. They are measures, levels or narrative statements of indicators of water quality that protect environmental values. They define what the water quality should be to protect the environmental values - after consideration of the socio-economic assessment of protecting the water quality.
waterway crossing	A crossing over water established for access
work site	A general word to describe a defined construction location.
worker accommodation facilities	Temporary worker accommodation facilities that would be established for the construction workers.

1. Introduction

This chapter provides background and a description of the key features of the project as described in the EIS, a summary of the assessment and approval process, and outlines the purpose and structure of this report.

1.1. Background

Transgrid proposes to increase the energy network capacity in southern New South Wales (NSW) through the development of new 500 kilovolt (kV) high-voltage transmission lines and associated infrastructure between Wagga Wagga, Bannaby and Maragle. This project is collectively referred to as HumeLink. The project would be located across five Local Government Areas (LGAs), including Wagga Wagga City, Snowy Valleys, Cootamundra-Gundagai Regional, Upper Lachlan Shire, and Yass Valley. HumeLink is a priority project for the Australian Energy Market Operator (AEMO) and the Commonwealth and NSW governments and has been declared Critical State Significant Infrastructure (CSSI). The project would deliver a cheaper, more reliable and more sustainable grid by increasing the amount of renewable energy that can be delivered across the national electricity grid, helping to transition Australia to a low carbon future.

The project requires assessment and approval from the Minister for Planning and Public Spaces under Part 5, Division 5.2 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The project was also referred to the Commonwealth Department of Climate Change, Energy, the Environment and Water (Commonwealth DCCEEW) in March 2022 and was determined to be a controlled action due to the potential for the project to impact on matters of national environmental significance under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 13 April 2022. The NSW Government confirmed the action will be assessed under the Assessment Bilateral Agreement (as amended in 2020) between the Australian and NSW governments. Approval would also be required from the Commonwealth Minister for the Environment and Water¹.

An Environmental Impact Statement (EIS) was prepared to assess the potential impacts of the project and identify the management measures to address those impacts. The EIS was publicly exhibited by the Department of Planning, Housing and Infrastructure (DPHI) (formerly Department of Planning and Environment (DPE)) from Wednesday 30 August 2023 to Tuesday 10 October 2023. On 11 October 2023, the Planning Secretary of DPHI requested Transgrid submit a response to the issues raised in submissions to the EIS, being this Submissions Report, in accordance with section 5.17(6)(a) of the EP&A Act.

Following the public exhibition of the EIS, Transgrid has proposed several amendments and refinements to the project in response to feedback received from stakeholders prior to, during and following the public exhibition of the EIS and ongoing design and construction methodology development by the construction contractors. A separate Amendment Report has been prepared to describe and assess any different or new impacts from the proposed amendments and refinements and to identify how those impacts would be managed and mitigated.

¹ With the proposed amendments and refinements described and assessed in the Amendment Report, the assessment of matters of national environmental significance for the project is subject to a *request to vary a proposal* issued to Commonwealth DCCEEW under the provisions of the EPBC Act and the Environment Protection and Biodiversity Conservation Regulations 2000.

1.2. Key features of the project

The key components of the project, as outlined and assessed in the EIS included:

- construction and operation of around 360 kilometres of new double circuit 500 kV transmission lines and associated infrastructure between Wagga Wagga, Bannaby and Maragle
- construction of a new 500/330 kV substation at Gregadoo (Gugaa 500 kV substation) approximately 11 kilometres south-east of the existing Wagga 330/132 kV substation (Wagga 330 kV substation)
- demolition and rebuild of a section of Line 51 (around two kilometres in length) as a double circuit 330 kV transmission line connecting into the Wagga 330 kV substation
- modification of the existing Wagga 330 kV substation and Bannaby 500/330 kV substation (Bannaby 500 kV substation) to accommodate the new transmission line connections
- connection of transmission lines to the future Maragle 500/330 kV substation (Maragle 500 kV substation, approved under the Snowy 2.0 Transmission Connection Project (SSI-9717))
- provision of one optical repeater telecommunications hut and associated connections to existing local electrical infrastructure
- establishment of new and/or upgraded temporary and permanent access tracks
- ancillary works required for construction of the project such as construction compounds, worker accommodation facilities, utility connections and/or relocations, brake and winch sites, and helipad/helicopter support facilities.

Further details on the key infrastructure components of the project and construction activities were provided in Chapters 3 (Project description - infrastructure and operation) and Chapter 4 (Project description – construction) of the EIS, respectively. Chapter 3 (Description of the amended project) of the Amendment Report describes the changes to aspects of the project infrastructure or construction method since the public exhibition of the EIS. The revised project description and construction chapters are included in Appendix A (Updated project description) to the Amendment Report.

The proposed amendments to the project include:

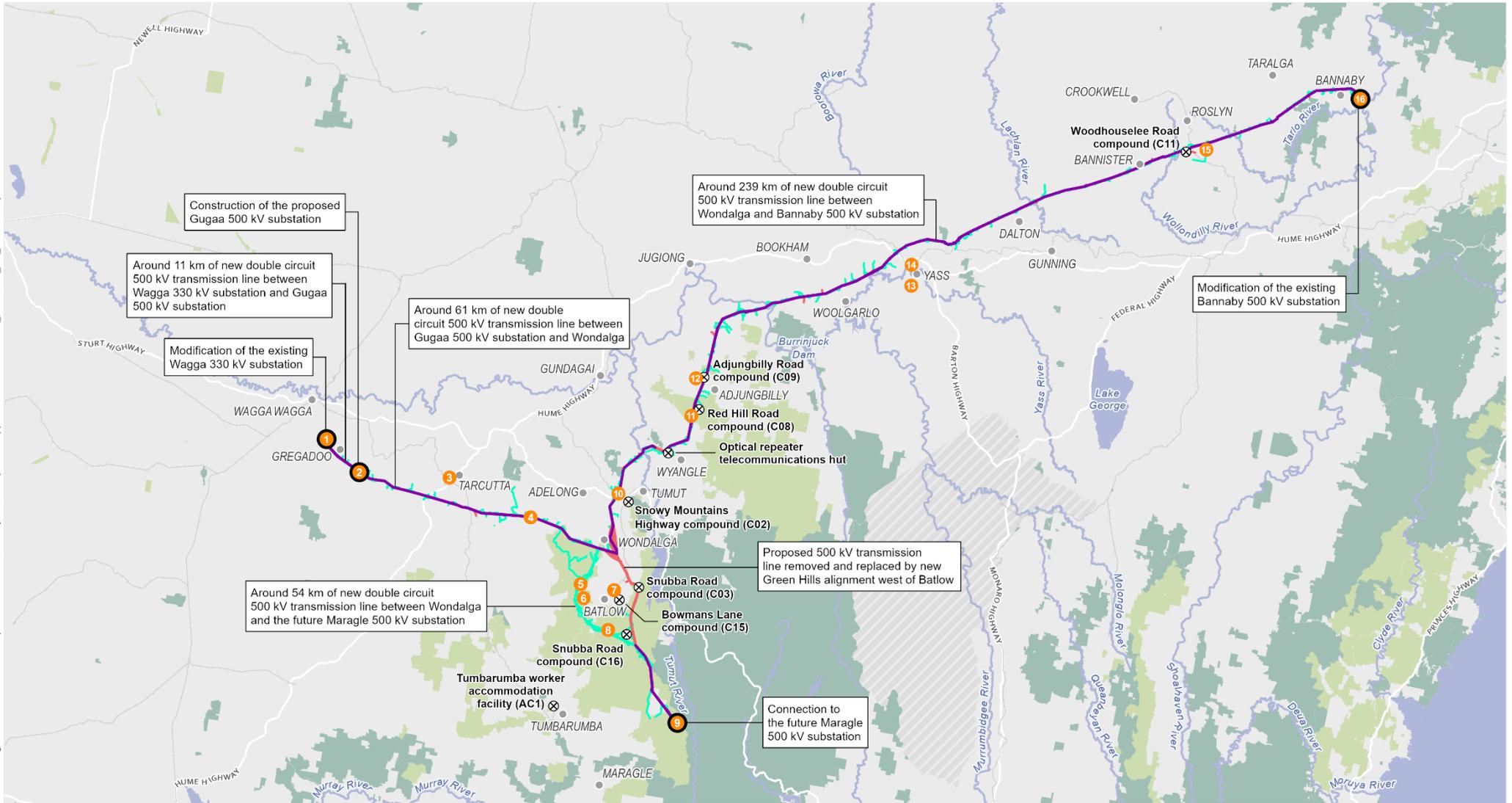
- changes to the transmission line corridor, including the realignment of the route through Green Hills State Forest to the west of Batlow
- change to the number and location of construction ancillary facilities, including worker accommodation facilities and construction compounds
- nomination of access tracks to support the construction and operation of the project
- additional telecommunications connections to existing substations.

The proposed refinements to the project include:

- transmission line and substation design refinements at Gregadoo
- identification of areas where controlled blasting may be required
- use of approved water sources
- use of helicopters and drones.

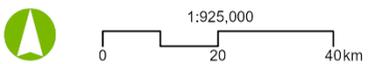
The project with all proposed amendments and refinements is referred to as the ‘amended project’. The project, as described and assessed in the EIS, is referred to as the ‘EIS project’. An overview of the amended project is shown in Figure 1-1. Transgrid will seek approval for the amended project described in the Amendment Report.

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EIS project footprint	State forest	Construction ancillary facilities	Green Hills accommodation facility and compound (AC07)	Adjungbilly accommodation facility and compound (AC04)
Removed footprint	Waterbody	Wagga 330 kV substation compound (C01)	Amended Memorial Avenue compound (C14)	Yass substation compound (C10)
Amendments	Waterway	Amended Gregadoo Road compound (C06)	Snubba Road compound (C18)	Yass accommodation facility and compound (AC05)
Removed project facility	Major road	Tarcutta accommodation facility and compound (AC03)	Maragle 500 kV substation compound (C05)	Crookwell accommodation facility and compound (AC06)
National park and reserve	Railway	Ellerslie Road compound (C21)	Gadara Road compound (C19)	Amended Bannaby 500 kV substation compound (C12)
		Ardrossan Headquarters Road compound (C17)	Amended Honeysuckle Road compound (C07)	

Source: Aurecon, Transgrid, Spatial Services (DCS), ESRI Basemap



Projection: GDA 1994 MGA Zone 55

Humelink
Figure 1-1: Key components of the amended project

1.3. The proponent

The proponent is NSW Electricity Networks Operations Pty Ltd (referred to as Transgrid). Transgrid operates and manages the main high-voltage transmission network in NSW and the ACT and is the Authorised Network Operator (ANO) for the purpose of an electricity transmission or distribution network under the provisions of the *Electricity Network Assets (Authorised Transactions) Act 2015*.

1.4. Purpose and structure of this Submissions Report

Transgrid has prepared this Submissions Report to address the Planning Secretary's request on 11 October 2023 to submit a response to the issues raised in submissions to the EIS in accordance with DPHI's *State significant infrastructure guidelines - preparing a submissions report* (DPE, 2022a).

This Submissions Report identifies the issues raised during the public exhibition of the EIS and responds to those issues. It also includes information regarding engagement before, during and after the public exhibition of the EIS, updated mitigation measures in response to the submissions and provides an updated justification of the project.

The Submissions Report has been structured as follows:

- Chapter 1 (Introduction) – summarises the project and the assessment undertaken to date.
- Chapter 2 (Engagement) – outlines the stakeholder and community engagement process for the public exhibition of the EIS and during the preparation of this Submissions Report.
- Chapter 3 (Analysis of submissions) – analyses the submissions received during public exhibition of the EIS.
- Chapter 4 (Actions taken since public exhibition) – summarises the actions taken by Transgrid since the public exhibition of the EIS.
- Chapter 5 (Response to government agency and public authority submissions) – provides a detailed summary of issues raised in the government agency and public authority submissions and Transgrid's response.
- Chapter 6 (Response to local council submissions) – provides a detailed summary of issues raised in the local council submissions, including Canberra Region Joint Organisation and Transgrid's response.
- Chapter 7 (Response to community and organisation submissions) – provides a detailed summary of issues raised in the community and organisation submissions and Transgrid's response.
- Chapter 8 (Updated project justification and conclusion) – includes an updated project justification following the public exhibition process and a synthesis of the issues raised in the submissions received.
- Chapter 9 (References) – identifies the key information sources used to inform this report.
- Appendix A (Submissions register) – provides a submissions register to help community submitters find the response to the issues they raised in accordance with DPHI's *State significant infrastructure guidelines - preparing a submissions report* (DPE, 2022a).
- Appendix B (Updated mitigation measures) – provides the compilation of the mitigation measures, including any new or revised mitigation measures required for the amended project or developed in response to submissions.
- Appendix C (NSW Department of Climate Change, Energy, the Environment and Water – Environment and Heritage detailed response) – provides a detailed response to issues raised by NSW Department of Climate Change, Energy, the Environment and Water – Environment and Heritage's on *Technical Report 1 – Biodiversity Development Assessment Report* of the EIS.

2. Engagement

Transgrid engagement has continued to evolve through the life of HumeLink to ensure community and stakeholder feedback helps shape the decision-making process.

This chapter provides an overview of engagement before, during and following the public exhibition of the EIS.

2.1. Before public exhibition of the EIS

Engagement with landowners started in April 2020 before COVID-19 restricted face-to-face activities for the remainder of the year. To address subsequent landowner concerns regarding engagement activities for the project, Transgrid organised a review and report by independent landowner and community advocate Rod Stowe.

The *Review of HumeLink engagement process – Findings of the Review* (Landowner and Community Advocate, 2021), ie the Stowe Report – completed and released publicly in July 2021 – made 20 recommendations, all of which Transgrid accepted and implemented to bring its strategies and processes in line with community expectations and best practice.

The *HumeLink Engagement Strategy* (outlined in Chapter 6 (Engagement) of the EIS) was updated in February 2022 to reflect the adjusted approach to consultation and ensure the needs of landowners and their communities were understood and considered through the project.

Section 6.1.3 of the EIS provides more information on the Stowe Report, the establishment of three Community Consultative Groups (CCGs) and engagement approach. Since then, the *HumeLink Engagement Strategy* has been regularly updated to reflect the adoption of additional changes including the CCG and implementation of a combined CCG from March 2023.

The following documents are available to view on the [HumeLink webpage](#):

- *Review of HumeLink engagement process – Findings of the Review* (Landowner and Community Advocate, 2021) – the Stowe Report
- *Implementation of the Landowner Advocate’s Recommendations on HumeLink* (Transgrid, 2022a)
- *Report on Transgrid’s implementation of the Stowe recommendations* (Landowner and Community Advocate, 2022).

Additional information on the community and stakeholder engagement completed ahead of the public exhibition of the EIS is outlined in Figure 2-1, and in Chapter 6 (Engagement) and Appendix C (Engagement Outcomes Report) of the EIS.

HumeLink community consultation activities overview

March 2021 – June 2023

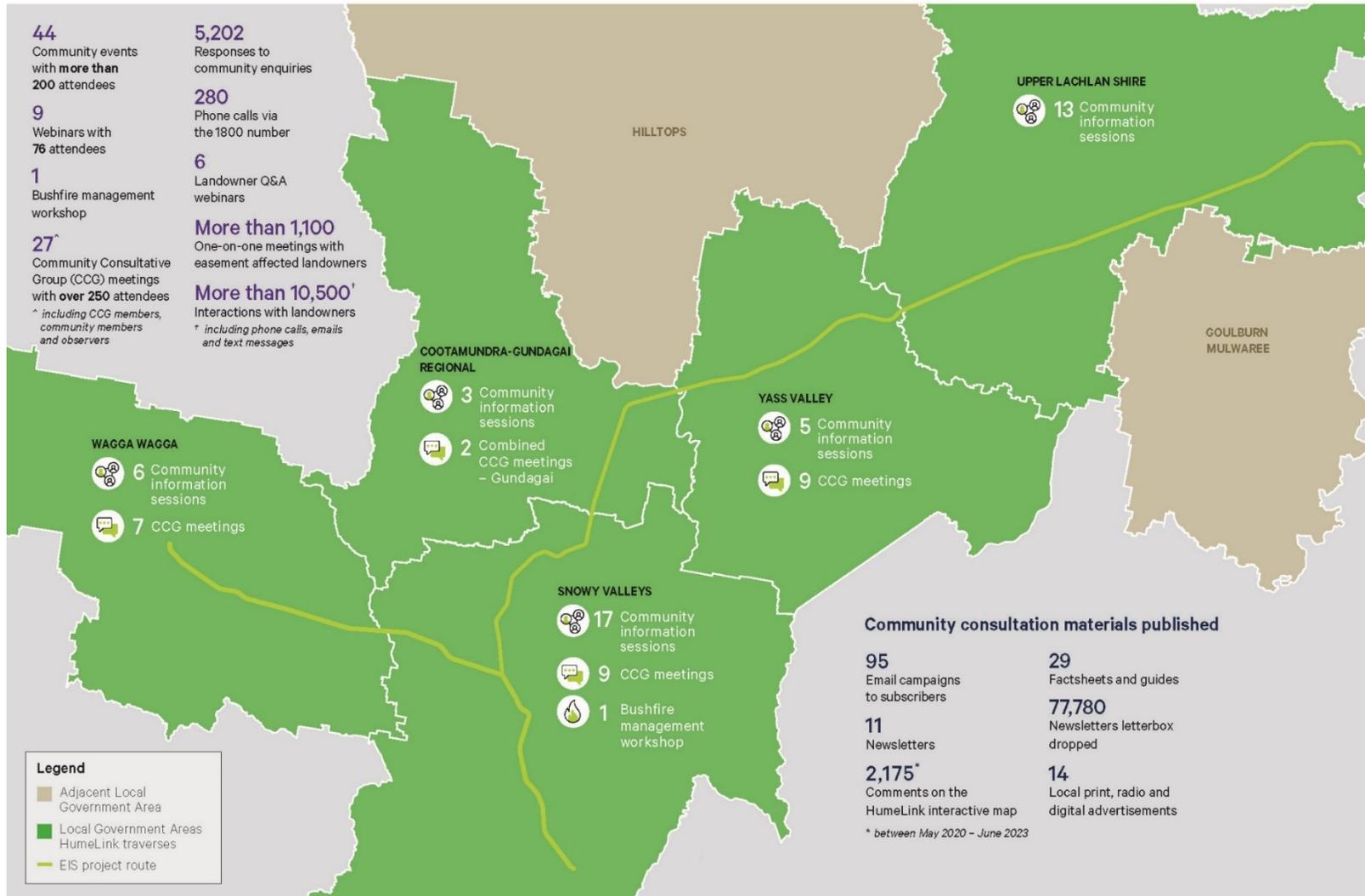


Figure 2-1 Overview of HumeLink community consultation activities before public exhibition of the EIS

2.2. Engagement during public exhibition of the EIS

2.2.1. Public exhibition of the EIS

The EIS was exhibited by the Department of Planning, Housing and Infrastructure (DPHI) (formerly Department of Planning and Environment (DPE)) for an initial 28-day period from Wednesday 30 August 2023 to Tuesday 26 September 2023. On 20 September 2023, DPHI advertised a 14-day extension of the public exhibition period ending Tuesday 10 October 2023. The public exhibition was advertised by Transgrid via print, digital, radio and social media, and by direct electronic mail as well as on the project website. This combination of advertising was chosen to best reach those who live, work, or commute through the project footprint and to achieve a diverse reach across demographics and media preferences. Demonstrating a robust engagement process, the EIS advertisement campaign was designed to raise awareness of the EIS public exhibition. A range of engagement activities were undertaken during the public exhibition period to provide landowners, the community and other stakeholders with the opportunity to find out more information about the project and outcomes from the EIS, discuss any concerns/questions and learn how to make a formal submission on the EIS.

In addition to the advertisement featured in local media outlets, the HumeLink July 2023 Newsletter was emailed to over 800 project subscribers, easement affected landowners and near neighbours, local information distributors, CCG members and letterbox dropped to more than 11,000 recipients within a 10 kilometre radius of the EIS project footprint.

Notifications to inform easement affected landowners that the EIS was on public exhibition were also sent out in accordance with section 181 of the Environmental Planning and Assessment Regulation 2021. In addition, to support the public exhibition and provide a better understanding of the EIS, the project team developed a digital EIS. The digital EIS is a user-friendly and interactive platform that presents key outcomes of the EIS. This platform delivered interactive mapping, multimedia displays and links to the full EIS on the DPHI Major Projects Portal. Refer to Section 2.2.6 for further details on the digital EIS.

The digital EIS provided an engagement tool that landowners and community could engage with in their own time to further understand the project and how to make a submission.

Electronic copies of the EIS were available on the NSW Major Projects Portal and via the digital EIS that was accessible from the project website. Hard copies of the main body of the EIS were exhibited at nine local council libraries listed in Table 2-1. Hard copies of the main body of the EIS as well as electronic copies of the full EIS on USB flash drives were also made available to community members upon request.

Table 2-1 Libraries where the EIS was on placed on public exhibition

LGA	Library
Wagga Wagga City	Wagga Wagga City Library
Snowy Valleys	Batlow Library, Tumbarumba Library, Tumut Library, Adelong Library
Cootamundra-Gundagai Regional	Gundagai Library
Yass Valley	Yass Valley Library
Upper Lachlan Shire	Crookwell Library, Gunning Library

Figure 2-2 provides an overview of consultation activities carried out for the public exhibition of the EIS.

HumeLink community consultation activities overview

EIS Public Exhibition: 30 August 2023 - 10 October 2023

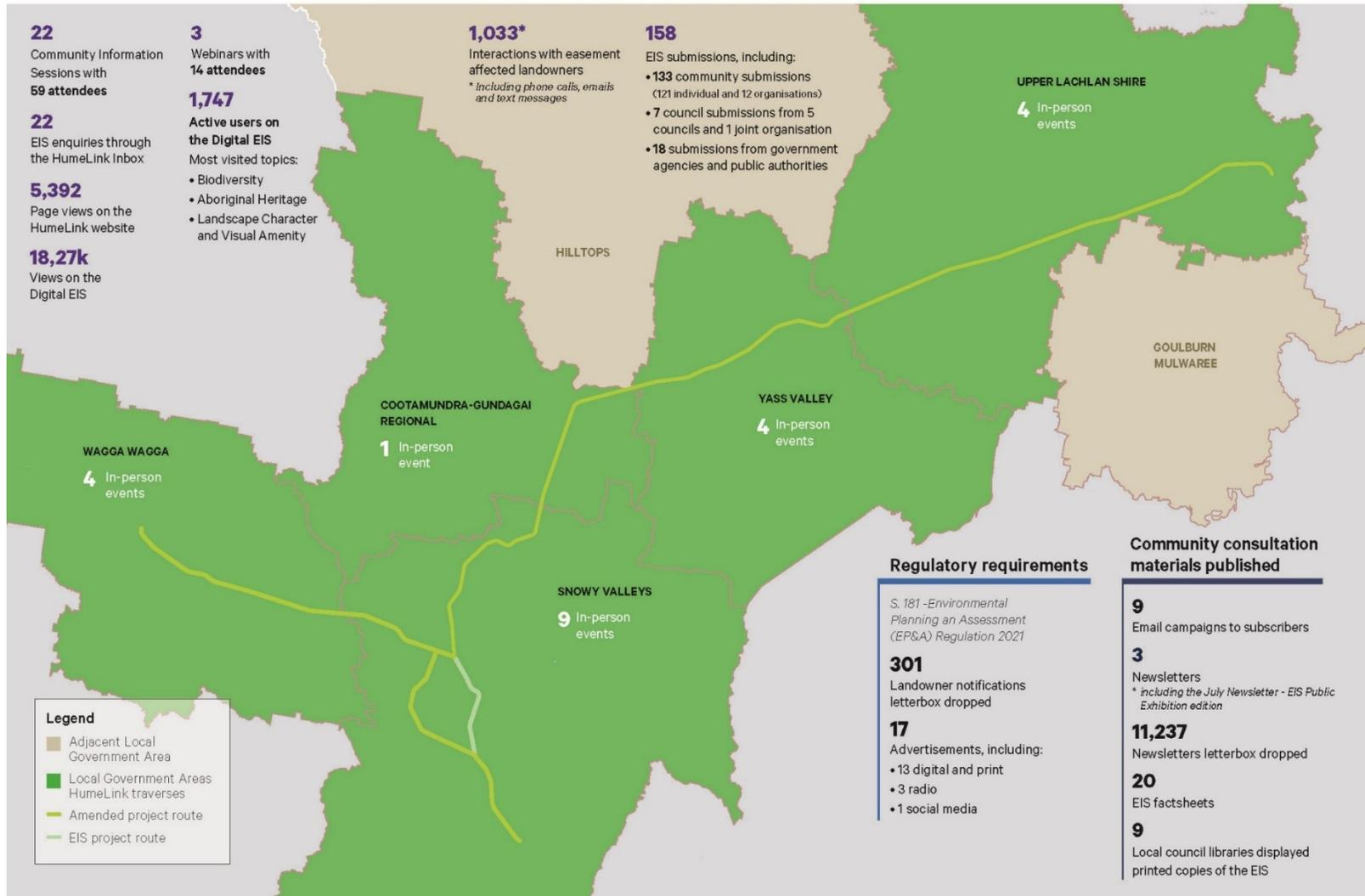


Figure 2-2 Overview of HumeLink community consultation activities for public exhibition of the EIS

2.2.2. Community information sessions

Nineteen drop-in style community information sessions (CIS) were organised during the public exhibition period for the EIS. These sessions were designed to engage with the general community and provide landowners, impacted communities, local government and businesses with information on the EIS and how to make a formal submission on the EIS. Members of the project team were available at these two-hour drop-in sessions, to speak with community members and stakeholders, explain the project, and answer questions. Three additional one-hour drop-in style sessions were organised exclusively for CCG members to engage with members of the project team one-on-one. The CIS venues were set up with information displayed around the room (corflute display boards) to allow for group movement and flow, with large maps of the project displayed in the centre of the room to facilitate collaborative discussion. Two stations were also set up with access to the digital EIS and DPHI Major Projects Portal for more information or for visitors to make a submission. The sessions were held over three weeks from Monday 4 September 2023 to Thursday 28 September 2023, with both daytime and evening sessions available.

Notifications of the CISs were included in the following local newspapers:

- Cootamundra Times (24 August 2023)
- Gundagai Independent (25 August 2023)
- Twin Town Times (24 August 2023)
- Upper Lachlan Gazette (23 August 2023)
- Yass Valley Times (23 August 2023)
- Monaro Post (23 August 2023)
- The Daily Advertiser (23 August 2023)
- Goulburn Post (23 August 2023)

The sessions were held in central locations near the EIS project footprint as detailed in Table 2-2, with a map of the CIS locations is shown in Figure 2-3.

Table 2-2 CIS locations and attendees

Location	Dates and times	Number of attendees
Wagga Wagga	4 September 2023 – 11am to 1pm	0
Wagga Wagga – CCG drop-in session	4 September 2023 – 3pm to 4pm	1
Wagga Wagga	4 September 2023 – 4pm to 6pm	4
Tumut – CCG drop-in session	5 September 2023 – 10am to 11am	3
Tumut	5 September 2023 – 11am to 1pm	3
Tumut	5 September 2023 – 4pm to 6pm	0
Batlow	6 September 2023 – 11am to 1pm	13
Batlow	6 September 2023 – 4pm to 6pm	5
Tumbarumba	7 September 2023 – 11am to 1pm	2
Tumbarumba	7 September 2023 – 4pm to 6pm	1
Adelong	8 September 2023 – 11am to 1pm	1
Gunning	11 September 2023 – 4pm to 6pm	3
Yass	12 September 2023 – 11am to 1pm	8
Yass – CCG drop-in session	12 September 2023 – 3pm to 4pm	1
Yass	12 September 2023 – 4pm to 6pm	2

Location	Dates and times	Number of attendees
Gundagai	13 September 2023 – 11am to 1pm	5
Tarcutta	13 September 2023 – 4pm to 6pm	1
Taralga	14 September 2023 – 11am to 1pm	1
Taralga	14 September 2023 – 4pm to 6pm	2
Crookwell	15 September 2023 – 4pm to 6pm	3
Yass	27 September 2023 – 4pm to 6pm	0
Tumut	28 September 2023 – 11am to 1pm	0
<i>Total</i>		59

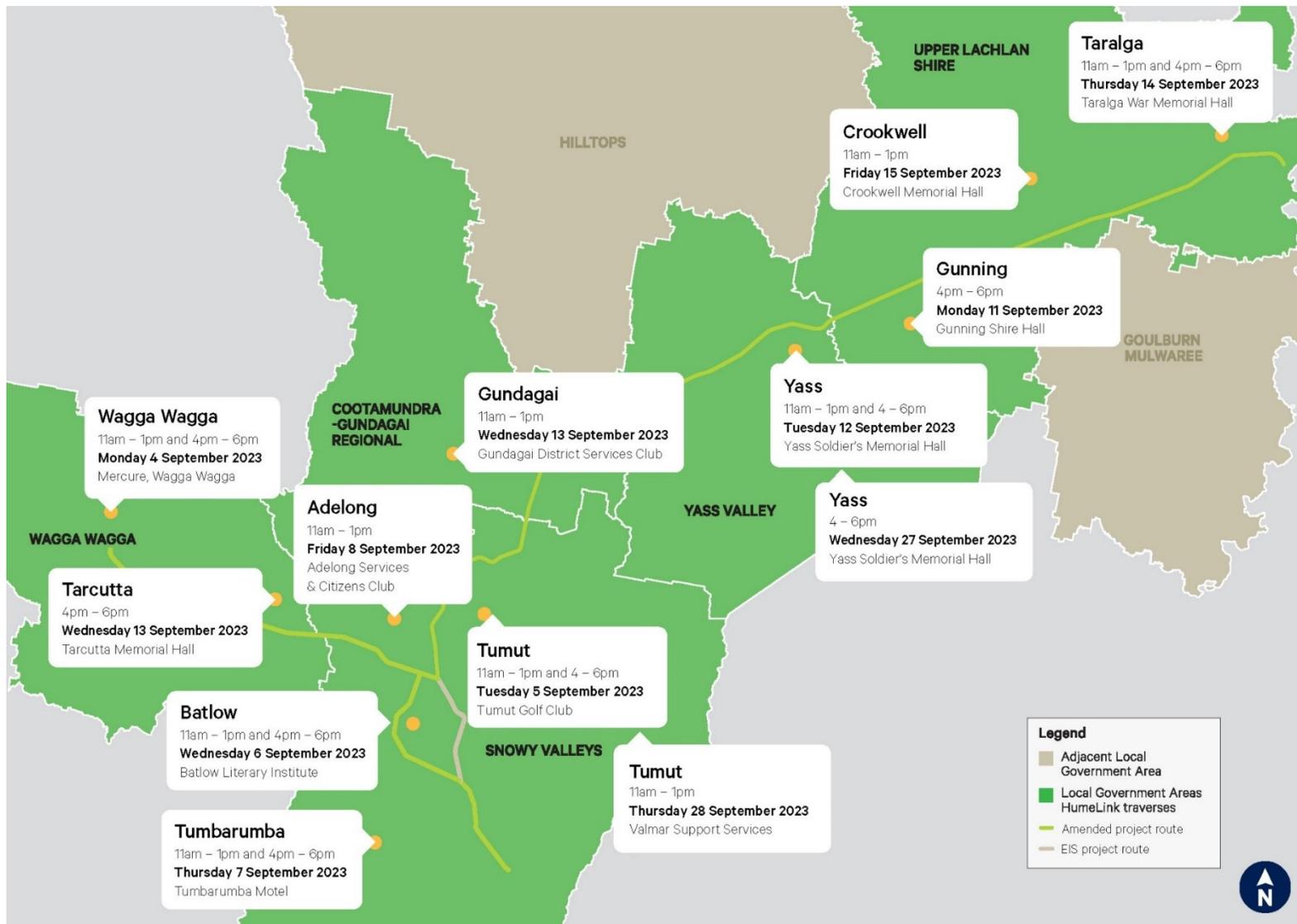


Figure 2-3 Map of CIS locations

Key topics and themes raised during the EIS public exhibition community information sessions included:

- Engagement and the EIS process:
 - general EIS and environmental approval process, how to make a submission to the EIS, public exhibition including concerns on the timeframes to provide feedback, next steps after public exhibition and the EIS resources available
 - engagement with the broader community, near-neighbours, Aboriginal stakeholders, local councils, the NSW Rural Fire Service (NSW RFS), Forestry Corporation of NSW (FCNSW), the opportunity to engage with younger demographic groups and opportunities for accessible consultation via the project's Remote Access Community Hub (RACH)
 - landowner compensation and general enquiries on the easement negotiation process
- Design and construction:
 - construction methodology, including the enabling works and upgrades required at the substations, construction timeframes, the process for selecting transmission line structure locations, access tracks and roads proposed to be used during construction, construction impacts, mitigation measures and contractor resourcing
 - the proposed western route through Green Hills State Forest and general route refinement work
 - undergrounding of the transmission line and the process and outcomes of the parliamentary inquiry, including the cost, constraints and impacts of undergrounding
- Environment and heritage:
 - bushfire and bushfire risk, including concerns about firefighting operations and procedures, Transgrid's responsibility in the de-energisation process, the risk of bushfire ignition and windy conditions, workforce training in firefighting activities, vegetation clearance and easement maintenance
 - biodiversity impacts, including vegetation clearing and impacts to threatened flora and fauna, the methodology used for the biodiversity impact assessment and the approach to biodiversity offsets
 - land use and property, including mapping methodology for the land use and property assessment and potential erosion impacts.
- Workforce:
 - workforce development, including opportunities for local Aboriginal communities, location of construction compounds and worker accommodation facilities, potential impacts on the availability of local accommodation including short and long-term accommodation, the number of temporary workers and potential social impacts.

A number of the above themes were also raised as issues in submissions from local councils, the community and organisations. Responses to these issues are provided in Chapter 6 (Response to local council submissions) and Chapter 7 (Response to community and organisation submissions).

2.2.3. Community Consultative Group drop-in sessions

Three one-hour drop-in sessions were organised for CCG members during the EIS public exhibition period. In these sessions, project team members were available to discuss the project and answer questions. These sessions occurred within a three-week period during EIS exhibition from Monday 4 September 2023 to Thursday 28 September 2023 and were located at Wagga Wagga (Monday 4 September 2023, 3pm – 4pm), Tumut (Tuesday 5 September 2023, 10am – 11am) and Yass (Tuesday 12 September 2023, 3pm – 4pm). In total, four CCG members attended the drop-in sessions.

The main themes discussed during the CCG drop-in sessions included:

- construction methodology, timeframes, ancillary facilities and transmission line structure design
- engagement activities, including engagement with the community, local council and Aboriginal community members
- potential project impacts, including bushfire risks, aviation impacts, cumulative impacts
- the proposed western route refinement through Green Hills State Forest and route decisions in the Yass area
- opportunities for local suppliers and local worker development.

2.2.4. EIS webinars

Four EIS webinars were offered during the public exhibition period. Three EIS webinars were held during the public exhibition period, and one was cancelled due to the absence of registrations. The webinars focused on EIS topics of interest raised by attendees and provided information on how to make a formal submission on the EIS. The webinars also provided attendees with an opportunity to ask questions. The webinars were held on Zoom. Fourteen participants attended in total across the three sessions.

The main themes discussed during the EIS webinars included:

- potential impacts and approach to assessing land use and property, landscape character and visual amenity, Aboriginal heritage, biodiversity, economic, electric and magnetic fields and bushfire risk
- establishment and maintenance of easements
- general approach to construction, including timeframes, Construction Environmental Management Plan (CEMP) development and engagement approach
- worker numbers and accommodation.

2.2.5. Remote Access Community Hub

Transgrid's Remote Access Community Hub (RACH) is a portable community information hub with the capacity for remote travel. Equipped with satellite connectivity for internet access, it allows visitors to access the project's interactive map and search and print out information. RACH was set up outside some information session venues to increase the visibility and accessibility of the sessions and was made available to visit individual landowners who were unable to join an in-person CIS or webinar. This provided another way for community members to engage with project team members as well as learn about the EIS and how to make a submission.

2.2.6. Digital resources

A digital format of the EIS was also prepared and was accessible on the HumeLink website, providing an interactive platform that presented the key outcomes of the EIS. The digital EIS included interactive maps, multimedia presentations and links to the DPHI Major Projects Portal, providing public access to all EIS documentation with guidance and link to facilitate submissions. The digital EIS was available to access from 30 August 2023 until 11 January 2024.

During the public exhibition period, the digital EIS had 1,747 unique active users with a total of 2,360 visits between 30 August and 10 October 2023 (the public exhibition period). The top topics viewed by users were biodiversity, Aboriginal heritage, and landscape character and visual amenity. During this period, 18,270 individual page views were also observed. There was a total of 784 PDF downloads from the platform, with the highest downloaded document being the EIS Summary at 49 downloads, followed by

Chapter 1 (Introduction) (38 downloads) and Chapter 8 (Biodiversity) (33 downloads). Additionally, 20 clicks on the 'Make a Submission' button on the digital platform were observed during the public exhibition period. Overall, the user-friendly platform was highly regarded by community members, landowners and stakeholders, with much positive feedback received during the public exhibition period.

In addition to the digital EIS, the project website provided a centralised location where community members and stakeholders were able to access key information about the project, including:

- information about the EIS and how to make a submission
- CIS
- project overview and updates
- factsheets, guides and newsletters
- photomontages
- interactive map
- CCG resources including presentation and meeting minutes
- information on regulatory and environmental approvals
- frequently asked questions (FAQs).

During the public exhibition period, 5,392 unique visitors accessed the project website. Additionally, the EIS factsheets received 187 unique visitor clicks and the EIS videos received 521 unique visitor views.

2.2.7. Government agency and local council engagement

Transgrid engaged with various government agencies and local councils in the weeks leading up to and during the public exhibition of the EIS. As part of Transgrid's ongoing engagement approach, the project team also met several times with Council elected members and Members of Parliament in the lead up to the public exhibition of the EIS. Government agency and technical council team meetings were held via Microsoft Teams, and meetings with Council elected members and Members of Parliament were held in person. Topics of interest from engagement with government agencies and local councils are provided in Table 2-3.

Table 2-3 Topics raised from engagement with government agencies and local council

Government agency / local council	Date	Topics raised
Yass Valley Council	6 July 2023	<ul style="list-style-type: none"> • EIS public exhibition timeframes • community investment • worker temporary accommodation facilities
WaterNSW	27 July 2023	<ul style="list-style-type: none"> • use of WaterNSW's Neutral or Beneficial Effect of Water Quality Assessment Guideline 2022 in preliminary assessments • potable water requirements and wastewater generation at ancillary facilities • water quality mitigation measures
Civil Aviation Safety Authority	27 July 2023	<ul style="list-style-type: none"> • engagement with Airservices Australia and Aerial Application Association of Australia (AAAA) • use of relevant Australian Standards for marking and lighting of transmission lines and structures, dependant on the proximity to an airport
Transport for NSW (TfNSW)	27 July 2023	<ul style="list-style-type: none"> • expects confirmation of stringing transmission lines across roads where TfNSW is the relevant road authority

Government agency / local council	Date	Topics raised
		<ul style="list-style-type: none"> suggested early contractor involvement to ensure management approach is clear as early as possible
Regional NSW (Mining, Exploration and Geoscience NSW)	27 July 2023 and 1 August 2023	<ul style="list-style-type: none"> engagement with mining and exploration title holders approach to biodiversity offset requirements, including Biodiversity Stewardship Agreements, and potential overlap with mining and exploration title holders use of extractive material locations, and potential impacts on extractive industries along the project footprint use of Regional NSW's database for identification of existing quarries
Department of Primary Industries (DPI) Agriculture	31 July 2023	<ul style="list-style-type: none"> land use and property assessment methodology consultation with landowners and agricultural enterprises impacts on forestry land, associated consultation, and compensation for long-term impact on the timber industry property acquisition process and potential changes in land tenure from property acquisition and establishment of easements enabling works impacts on current and future agricultural land and operations, including from loss of State significant agricultural land and project impacts on crop harvesting and aerial operations process for managing current and future land use and property impacts, including property management plans and easement agreements development of measures and biosecurity protocols specific to agricultural activities process for selecting worker accommodation facilities, and how these may impact agricultural areas
Cootamundra-Gundagai Regional Council	5 August 2023	<ul style="list-style-type: none"> EIS public exhibition timeframes road crossings and methodology traffic management in LGA – majority is timber haulage pre-construction road condition assessment request for a detailed Traffic Management Plan and roads agreement
Former Office of Energy and Climate Change	18 August 2023	<ul style="list-style-type: none"> DPE feedback on the EIS before the public exhibition biodiversity assessment methodology Green Hills State Forest route refinement EIS public exhibition timeframes parliamentary inquiry into undergrounding transmission lines and community engagement around it upcoming community engagement and risk of community engagement fatigue property access and community sentiment around the Bannaby area process for managing property impacts during construction and operation timing on CEMP development opportunity to reuse temporary facilities from Project EnergyConnect for worker accommodation facilities and construction compounds road upgrades during construction to facilitate access
Riverina Eastern Regional Organisation of Councils	24 August 2023	<ul style="list-style-type: none"> EIS public exhibition timeframes land use and property assessment methodology, including whether impacts to livestock have been addressed process for managing property impacts, including site access

Government agency / local council	Date	Topics raised
		<ul style="list-style-type: none"> • consideration of near neighbours • impacts on business and lifestyle • impacts on local council facilities
Hilltops Council	24 August 2023	<ul style="list-style-type: none"> • no comments or questions were raised during the meeting
Wagga Wagga City Council	24 August 2023	<ul style="list-style-type: none"> • EIS public exhibition timeframes • land use and property assessment methodology, including whether Council land was considered • potential impacts on the Gregadoo Waste Management Centre • environment protection licences • consultation on CEMP and associated sub-plan development • bushfire risk • impacts on agricultural land
Upper Lachlan Shire Council	24 August 2023	<ul style="list-style-type: none"> • EIS public exhibition timeframes • digital EIS • process for managing property impacts • consultation on CEMP and associated sub-plan development • impacts on local roads during construction • regulatory notifications to local councils.
NSW Telco Authority	20 September 2023	<ul style="list-style-type: none"> • potential impacts on Public Safety Network links and interference to NSW Telco Authority network and need for ongoing management and consultation.

2.2.8. Other community and stakeholder enquiries

During the public exhibition of the EIS, community members could also contact the project team via the 1800 community number and project email address. Five calls to the 1800 community number were made during the public exhibition with queries covering potential project impacts, issues with making a submission on the EIS, and requests for details on CIS and EIS webinar schedules. Twenty-two emails were also received. The main themes in the emails included potential project impacts, issues with making a submission on the EIS, general queries on the EIS public exhibition and engagement schedule, and access to EIS resources.

2.3. Engagement since public exhibition of the EIS

Transgrid has continued to engage with government agencies, councils, landowners, near neighbours, communities and other key stakeholders since the public exhibition of the EIS. Engagement activities have focused on providing information, responding to specific issues raised in submissions, and discussing and seeking feedback on the proposed amendments and refinements to the project, including the potential impacts and any new or updated mitigation measures.

Engagement activities have included briefings for government agencies and local councils, CCG meetings, communications between directly impacted landowners and our dedicated Place Managers and Land Access Officers, 'street meetings', webinars and CISs.

Further details on how ongoing stakeholder engagement has supported each of the proposed amendments and refinements is provided in Chapter 5 (Engagement) of the Amendment Report, and the specific activities undertaken are in Appendix D (Engagement Outcomes Report) of the Amendment Report.

3. Analysis of submissions

This chapter provides an analysis of the submissions received during the EIS public exhibition period, including a breakdown of the types of submitters, the number of submissions received, and the key issues raised in submissions.

3.1. Overview of submissions received

The Environmental Impact Statement (EIS) was exhibited by the Department of Planning, Housing and Infrastructure (DPHI) (formerly Department of Planning and Environment (DPE)) from Wednesday 30 August 2023 to Tuesday 10 October 2023. The Planning Secretary received a total of 158 submissions from 150 submitters. Several submissions were received from government agencies, public authorities and the community after the close of public exhibition period. Five of the submissions received were form letters². Table 3-1 provides the breakdown of the submissions. All submissions are available to be viewed on the DPHI Major Projects Portal accessible from: <https://www.planningportal.nsw.gov.au/major-projects/propects/humelink>.

Table 3-1 Breakdown of the submissions

Submitter type	Number of submitters	Number of submissions received
Government agencies, public authorities and local councils		
Government agencies and public authorities ³	18	18
Local councils (including Canberra Region Joint Organisation)	6	7
Subtotal	24	25
Community and organisations		
Organisations	12	12
Individuals	114	121
Subtotal	126	133
Total	150	158

3.2. Approach to analysing submissions

3.2.1. Government agency, public authority and local council submissions

Submissions from government agencies, public authorities and local councils (including Canberra Region Joint Organisation) were considered separately to submissions from the community and organisations. The content of each government agency, public authority and local council submission was reviewed, and each issue raised has been included and responded to in this Submissions Report. Issues raised by government agencies, public authorities and local councils were not grouped, as they largely depended on their focus area or assets/interests. Additionally, issues have been presented generally verbatim from each

² Form letters are templates used by multiple submitters that include identical text and structure rather than being specifically composed.

³ Public authorities in this instance refer to Forestry Corporation New South Wales (FCNSW) and Civil Aviation Safety Authority (CASA). It is to be noted that under the DPHI Major Projects Portal, FCNSW and CASA are not listed under agency advice.

submission. However, some minor editing or summarising has been undertaken to provide sufficient background to the issue or to improve the presentation as a standalone issue.

Responses to each government agency and public authority submission issue are provided in Chapter 5 (Response to government agency and public authority submissions), and responses to each local council and Canberra Region Joint Organisation submission issue are provided in Chapter 6 (Response to local council submissions).

Where appropriate, issues and new information provided in submissions from government agencies, public authorities and local councils have been considered in the development and assessment of the amended project (refer to Chapter 3 (Description of the amended project) and Chapter 6 (Assessment of impacts) of the Amendment Report, respectively).

3.2.2. Community and organisation submissions

An assessment of each community and organisation submission was carried out. A unique ID number was assigned to each submitter by DPHI and Transgrid used this to link the summary of the issue and the corresponding response (refer to Appendix A (Submission register)). The content of each community and organisation submission was then reviewed and categorised according to the key issues raised (eg economic, environmental, and social impacts) and sub-issues (eg biodiversity). These categories formed the basis for the structure of responses to the submissions, which are issue-specific. The key issue categories were generally developed to be consistent with DPHI's *State significant infrastructure guidelines - preparing a submissions report* (DPE, 2022a).

Each issue identified in the community and organisation submissions has been presented in a summary. While the exact wording of each submission may not be presented in the issue summary, the intent of each issue has been included. Issue summaries were then grouped by similar themes and a response is provided in Chapter 7 (Response to community and organisation submissions).

Where appropriate, issues and new information provided in submissions from the community and organisations have been considered in the development and assessment of the amended project (refer to Chapter 3 (Description of the amended project) and Chapter 6 (Assessment of impacts) of the Amendment Report, respectively).

3.3. Support/objection

Of the seven submissions received from local councils and Canberra Region Joint Organisation, five local councils provided comments on the project, and Wagga Wagga City Council and Canberra Region Joint Organisation objected to the project. Wagga Wagga City Council objected to the project based on impacts to Gregadoo Waste Management Centre and unauthorised access to land outside the transmission line easement. Canberra Region Joint Organisation did not provide a specific reason for objecting.

Government agency and public authority submissions were provided as advice, with no position of support or objection noted.

Of the 126 community and organisations submitters:

- two submitters were in support of the project
- 14 submitters provided comments on the project
- 110 submitters objected to the project.

3.4. Government agency, public authorities and local council submissions

Submissions were received from the following 18 government agencies and public authorities during the public exhibition of the EIS:

- Airservices Australia
- Australian Rail Track Corporation
- Civil Aviation Safety Authority
- former Department of Planning and Environment – Biodiversity, Conservation and Science Directorate (now NSW Department of Climate Change, Energy, the Environment and Water – Environment and Heritage (NSW DCCEEW Environment and Heritage))
- former Department of Planning and Environment – Crown Lands (now DPHI Crown Lands)
- former Department of Planning and Environment – Water (now NSW DCCEEW Water)
- Department of Primary Industries – Agriculture
- Department of Primary Industries – Fisheries
- Fire and Rescue NSW
- Forestry Corporation of NSW
- Heritage Council of NSW
- former Heritage NSW (now NSW DCCEEW Environment and Heritage)
- Mining, Exploration and Geoscience NSW
- NSW Environment Protection Authority
- NSW Rural Fire Service
- NSW Telco Authority
- Transport for NSW
- WaterNSW.

Responses to each government agency and public authority issue are provided in Chapter 5 (Response to government agency and public authority submissions).

Submissions were received from the following five local councils during the public exhibition of the EIS:

- Goulburn Mulwaree Council
- Snowy Valleys Council
- Upper Lachlan Shire Council
- Wagga Wagga City Council
- Yass Valley Council.

Responses to each local council and Canberra Region Joint Organisation issue are provided in Chapter 6 (Response to local council submissions). Canberra Region Joint Organisation has been grouped with local councils as it advocates for the five local councils who made submissions on the EIS.

3.5. Community and organisation submissions

A total of 133 community and organisation submissions were received from 126 submitters, which included 12 submissions from organisations (refer to Table 3-2).

Table 3-2 Organisations that made submissions

Organisation type	Name
Peak organisation	<ul style="list-style-type: none"> • Business Snowy Valleys • Softwoods Working Group
Interest/community groups	<ul style="list-style-type: none"> • Energy Grid Alliance • HumeLink Alliance Incorporated • Kyeamba Valley Landcare Group • National Parks Association of NSW • Orchid Society of Canberra Conservation Group
Commercial organisations	<ul style="list-style-type: none"> • APA Group • Harissa Pty Ltd • IAL Moloney • Reiland Angus
Other	<ul style="list-style-type: none"> • Big Springs Rural Fire Service brigade

3.5.1. Summary of submissions

Figure 3-1 provides a summary of the key issues raised in submissions received from the community and organisations whereas Figure 3-2 provides a summary of key sub-issues.

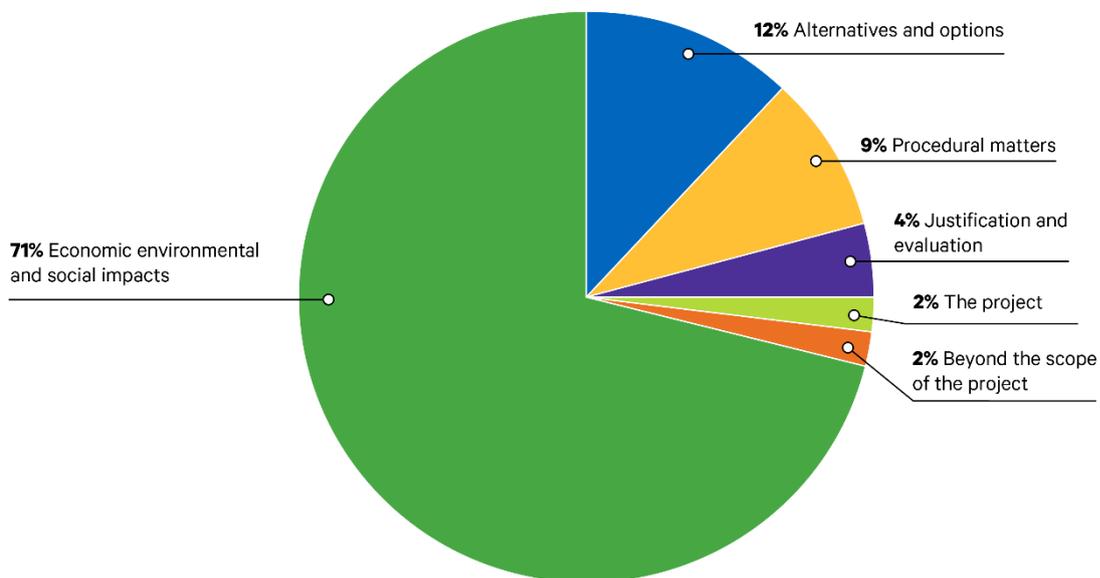


Figure 3-1 Summary of key issues raised by community and organisations

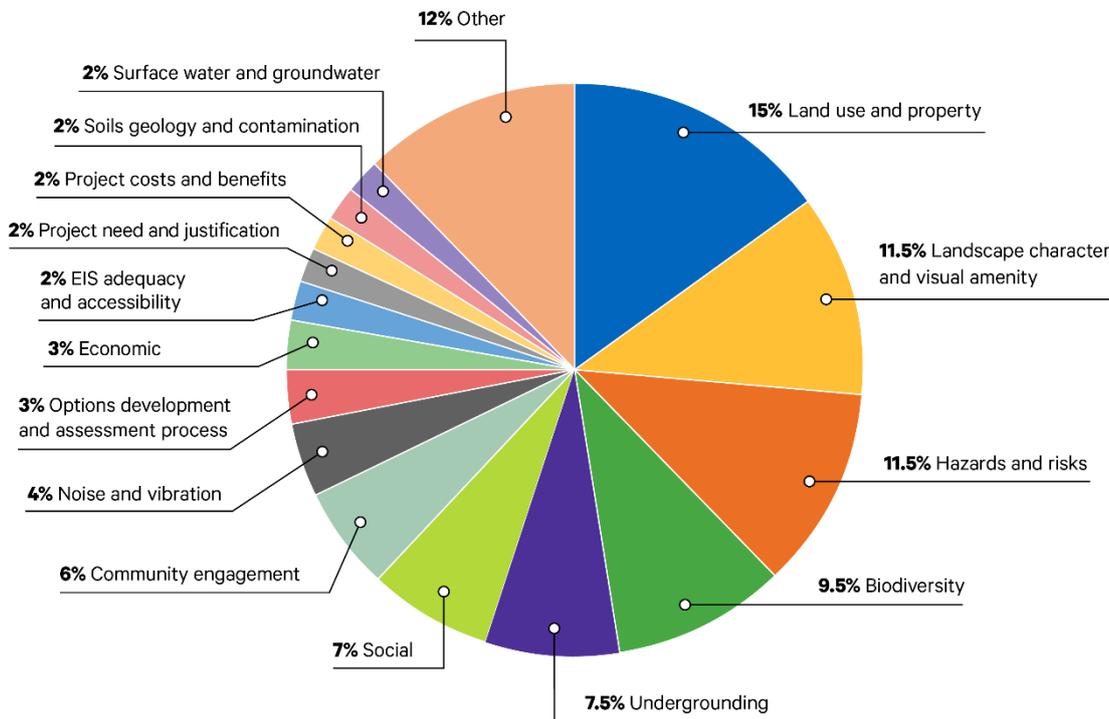


Figure 3-2 Summary of key sub-issues raised by community and organisations

Figure 3-1 shows that the most raised key issue category was 'economic, environmental and social impacts', which aligned with the majority of issues raised. About half of the issues raised within 'economic, environmental and social impacts' were regarding land use and property, landscape character and visual amenity, hazard and risks and biodiversity. The next key issue was 'alternatives and options', which mainly related to undergrounding (ie 65 per cent of all 'alternatives and options' issues).

Figure 3-2 provides a summary of the top sub-issues raised under the key issues. The 'other' category includes 20 separate sub-issues, which only had relatively small issue counts in comparison to the top issues. The top 10 sub-issues raised were:

1. **land use and property**, of which the majority of issues raised were related to impacts on agricultural operations and productivity at a local and regional scale and how these impacts would be managed
2. **landscape character and visual amenity**, which primarily related to the operational impacts of the proposed transmission line and the methodology used for the assessment
3. **hazards and risks**, which primarily related to the increased risk of bushfires and impacts to firefighting operations, and risks associated with electric and magnetic fields (EMF)
4. **biodiversity**, of which the majority of issues were related to the magnitude of biodiversity impacts, eg the extent of clearing and impacts to threatened species and ecological communities, and the methodology used in the assessment
5. **undergrounding**, which related to the undergrounding of the proposed transmission line
6. **social**, which related to a range of issues including potential impacts on health and wellbeing, livelihoods, community and way of life

7. **community engagement**, which related to a broad range of issues associated with engagement carried out pre-exhibition of the EIS during project development
8. **noise and vibration**, which primarily related to potential operational noise impacts from the proposed transmission line and how these impacts would be managed
9. **options development and assessment process**, which primarily related to the process that was carried out to assess and select the preferred transmission line corridor for the project
10. **economic**, which primarily related to potential negative economic impacts on tourism, agricultural and forestry operations from the project, and concerns in relation to project costs and benefits.

Table 3-3 provides a summary of the key issues and sub-issues raised in the community and organisation submissions, including how many times each sub-issue was raised. As most of the community and organisation submissions raised more than one issue, the number of issues identified is greater than the total number of submissions received. The percentages were calculated by determining the number of times an issue/sub-issue was raised compared to the total number of community and organisation submissions.

Table 3-3 Summary of key issues and sub-issues raised in community and organisation submissions

Key issue category 1	Sub-issue category 2	Sub-issue category 3	Number of times issue was raised	Percentage of submissions issue was raised in	Section of the report the issue is located
Economic, environmental and social impacts	Land use and property	Agricultural productivity impacts	118	89%	7.4.4.3
		Management of impacts	33	25%	7.4.4.6
		Property devaluation	35	26%	7.4.4.4
		Other land use and property impacts	9	7%	7.4.4.5
		Methodology	8	6%	7.4.4.1
		Existing environment	2	2%	7.4.4.2
	Landscape character and visual amenity	Operational impacts	84	63%	7.4.7.4
		Methodology	53	40%	7.4.7.1
		Management of impacts	18	14%	7.4.7.5
		Existing environment	3	2%	7.4.7.2
		Construction impacts	2	2%	7.4.7.3
	Hazards and risks	Bushfire impacts	111	83%	7.4.12.2
		EMF impacts	35	26%	7.4.12.3
		Aviation impacts	8	6%	7.4.12.1
		Other hazards and risks	3	2%	7.4.12.4
	Biodiversity	Magnitude of impact	80	60%	7.4.1.2
		Methodology	24	18%	7.4.1.1
		Management of impacts	16	12%	7.4.1.5
		Connectivity impacts	8	6%	7.4.1.3
		Other biodiversity impacts	3	2%	7.4.1.4

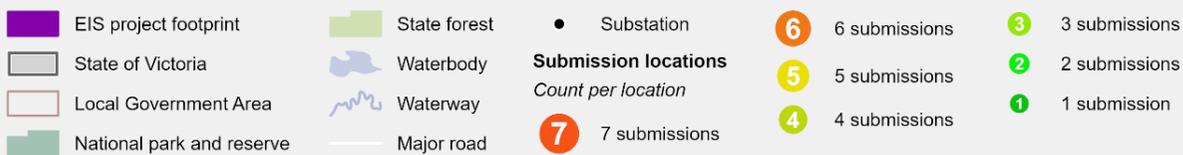
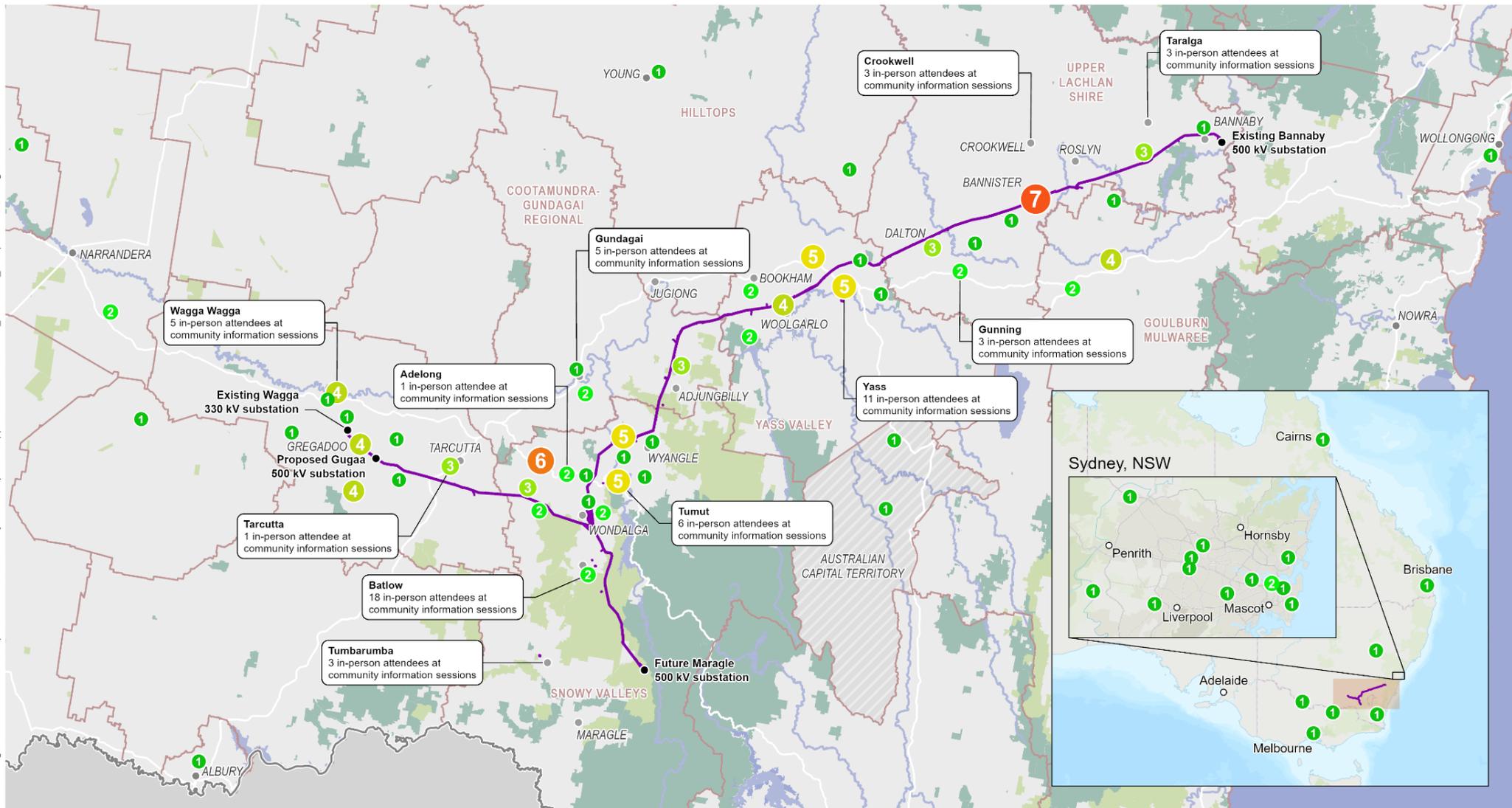
Key issue category 1	Sub-issue category 2	Sub-issue category 3	Number of times issue was raised	Percentage of submissions issue was raised in	Section of the report the issue is located
	Social	Health and wellbeing	38	29%	7.4.6.3
		Livelihoods	32	24%	7.4.6.4
		Community	10	8%	7.4.6.2
		Way of life	8	6%	7.4.6.5
		Methodology	5	4%	7.4.6.1
		Other social impacts	3	2%	7.4.6.6
	Noise and vibration	Operational impacts	29	22%	7.4.8.4
		Management of impacts	13	10%	7.4.8.5
		Methodology	11	8%	7.4.8.1
		Construction impacts	4	3%	7.4.8.3
		Existing environment	3	2%	7.4.8.2
	Economic	Potential impacts	29	22%	7.4.5.2
		Methodology	7	5%	7.4.5.1
	Soils, geology and contamination	Potential impacts	16	12%	7.4.9.2
		Management of impacts	5	4%	7.4.9.3
		Methodology	1	1%	7.4.9.1
	Surface water and groundwater	Construction impacts	10	8%	7.4.10.3
		Existing environment	5	4%	7.4.10.2
		Management of impacts	4	3%	7.4.10.5
		Operational impacts	1	1%	7.4.10.4
		Methodology	1	1%	7.4.10.1
	Traffic, transport and access	Construction impacts	10	8%	7.4.13.2
		Existing environment	3	2%	7.4.13.1
		Operational impacts	2	2%	7.4.13.3
	Non-Aboriginal heritage	Potential impacts	9	7%	7.4.3.3
		Existing environment	4	3%	7.4.3.2
		Methodology	1	1%	7.4.3.1
	Aboriginal heritage	Potential impacts	11	8%	7.4.2.1
		Management of impacts	2	2%	7.4.2.2
	Climate change and greenhouse gas	Potential impacts	13	10%	7.4.15.1
Air quality	Potential impacts	5	4%	7.4.14.2	
	Management of impacts	3	2%	7.4.14.3	
	Methodology	1	1%	7.4.14.1	
Cumulative impacts	Potential impacts	3	2%	7.4.18.2	
	Methodology	5	4%	7.4.18.1	

Key issue category 1	Sub-issue category 2	Sub-issue category 3	Number of times issue was raised	Percentage of submissions issue was raised in	Section of the report the issue is located
	Sustainability	Ecologically sustainable development	5	4%	7.4.17.1
	Waste	Management of impacts	2	2%	7.4.16.2
		Methodology	1	1%	7.4.16.1
	Hydrology and flooding	Potential impacts	3	2%	7.4.11.1
Alternatives and options considered	Undergrounding	-	105	79%	7.2.1
	Options development and assessment process	-	40	30%	7.2.2
	Community suggestions	-	15	11%	7.2.3
Procedural matters	Community engagement	Specific matters	34	26%	7.3.4.3
		Level and nature of engagement	32	24%	7.3.4.1
		Project infrastructure	12	9%	7.3.4.2
	EIS adequacy and accessibility	-	31	23%	7.3.2
	Approval process	-	11	8%	7.3.1
	Other statutory requirements	-	8	6%	7.3.3
Justification and evaluation	Project need and justification	-	28	21%	7.5.1
	Project costs and benefits	-	24	18%	7.5.2
	Strategic context	-	3	2%	7.5.3
The project	Transmission line design	-	11	8%	7.1.5
	Operation and maintenance	-	8	6%	7.1.3
	Substations	-	4	3%	7.1.4
	Construction program	-	3	2%	7.1.2
	Other project activities	-	2	2%	7.1.6
	Construction compounds	-	1	1%	7.1.1
Beyond the scope of the project	-	-	20	15%	7.6

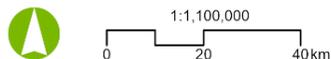
3.5.2. Summary of submitter locations

Figure 3-3 provides an overview of the location of community members and organisations that made submissions, which varied from local landowners to members of the public from outside NSW. The figure maps submitter locations against the EIS project. Most submissions raised a wide variety of issues and there is no clear relationship identified between the submitter's location and the nature of the issues raised. Figure 3-3 also provides an overview of the number of attendees to the in-person and online community information sessions held during the public exhibition of the EIS.

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Note: 14 webinar attendees to community information sessions during EIS public exhibition



Projection: GDA 1994 MGA Zone 55

FIGURE 3-3: Location of community members and organisations that made submissions

4. Actions taken since public exhibition

This chapter provides a summary of the key actions that have been undertaken by Transgrid since the public exhibition of the EIS. This chapter also provides clarifications or corrections to the EIS.

4.1. Project amendments and refinements following public exhibition

Since the public exhibition of the EIS, Transgrid has identified several proposed amendments and refinements to the project as described in the EIS. These amendments and refinements reflect functional improvements to the design and construction methodology of the project. They consider:

- feedback received from stakeholders prior to and during the public exhibition of the EIS
- comments made in formal submissions on the EIS
- ongoing design and construction methodology development by the construction contractors.

Amendments to the project are defined as changes following the public exhibition of the EIS in what the proponent is seeking approval for. Project amendments require changes to the project description in the EIS and amendments to the associated infrastructure application.

The proposed amendments to the project include:

- changes to the transmission line corridor including the realignment of the route through Green Hills State Forest to the west of Batlow
- changes to the number and location of construction ancillary facilities including worker accommodation facilities and construction compounds
- nomination of access tracks to support the construction and operation of the project
- additional telecommunications connections to existing substations.

Refinements to the project are defined as aspects of the project that generally fit within the limits set by the project description in the EIS. Refinements do not change what is being sought approval for or require an amendment to the infrastructure application for the project.

The proposed refinements to the project include:

- transmission line and substation design refinements at Gregadoo
- identification of areas where controlled blasting may be required
- use of approved water sources
- use of helicopters and drones.

A detailed description and assessment of the proposed amendments and refinements are provided in Chapter 3 (Description of the amended project) of the Amendment Report.

A number of the proposed amendments and refinements address concerns raised in submissions by government agencies, local councils, the community and organisations as follows:

- The changes to the transmission line corridor, including the Green Hills corridor amendment, assist in addressing concerns from the community and organisations regarding impacts on biodiversity, land use and property, and landscape character and visual amenity (refer to Section 7.4 for further details).

- The Green Hills corridor amendment also addresses concerns raised by Snowy Valleys Council regarding impacts on agricultural productivity in the Snowy Valleys Local Government Area (LGA) (refer to Section 6.2 for further details).
- The five new worker accommodation facilities proposed as part of the amended project in Tarcutta, Adjungbilly, Yass, Crookwell and Green Hills address concerns raised by local councils and the community on the likely shortage of available accommodation for workers in nearby towns (refer to Sections 6.2, 6.3, 6.5 and 7.4 for further details). Specifically, the Crookwell accommodation facility and compound (AC06) and Yass accommodation facility and compound (AC05) support requests made by Upper Lachlan Shire Council and Yass Valley Council, respectively, to accommodate workers in their LGAs (refer to Sections 6.3 and 6.5 for further details).
- The replacement of the telecommunications hut at Killimicat with telecommunications connections to existing substations addresses concerns raised by the community regarding its justification and impact (refer to Section 7.1 for further details).
- Further analysis of water sources carried out for the amended project assists in addressing concerns raised by NSW Department of Climate Change, Energy, the Environment and Water – Water (NSW DCCEEW Water) regarding water supply and sources for construction (refer to Section 5.6 for further details).
- The proposed increase in the use of helicopters and drones for the stringing of the transmission lines as part of the amended project may assist in managing concerns raised by Goulburn Mulwaree Council regarding environmental impacts on Pejar Dam from the use of boats (refer to Section 6.1 for further details).

4.2. Additional assessments undertaken following public exhibition

Several technical reports have been prepared to support the Amendment Report and assessment of the amendments and refinements. Where relevant, the technical reports have also considered submissions received during the public exhibition of the EIS including updates of the impact assessment, revised elements of the methodology or clarification provided in response to a submission. Table 4-1 provides an overview of the technical reports and assessments undertaken following the public exhibition of the EIS.

Table 4-1 Overview of the technical reports and assessments undertaken following public exhibition

Technical report	Scope
<i>Technical Report 1 – Revised Biodiversity Development Assessment Report</i>	<i>Technical Report 1 – Revised Biodiversity Development Assessment Report</i> provides a full update of the technical report to the same level of assessment and content as carried out for the EIS. The revised report has included the relevant proposed amendments and refinements described in Section 4.1 and addresses issues raised in the submissions from NSW DCCEEW Environment and Heritage and Department of Primary Industries – Fisheries (DPI Fisheries). Additional field surveys and consultation with NSW DCCEEW Environment and Heritage and DPI Fisheries were undertaken in preparing the revised report (refer to Chapter 5 (Engagement) of the Amendment Report).
<i>Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report</i>	<i>Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report</i> provides a full update of the technical report to the same level of assessment and content as carried out for the EIS. The revised report has included the relevant proposed amendments and refinements described in Section 4.1 and addresses issues raised in the NSW DCCEEW Environment and Heritage submission. Additional field surveys and consultation with NSW DCCEEW Environment and Heritage were undertaken in preparing the revised report (refer to Chapter 5 (Engagement) of the Amendment Report).

Technical report	Scope
<i>Technical Report 3 – Historic Heritage Impact Assessment Addendum</i>	<i>Technical Report 3 – Historic Heritage Impact Assessment Addendum</i> supplements the technical report prepared for the EIS and has been prepared to consider the relevant proposed amendments and refinements described in Section 4.1.
<i>Technical Report 4 – Agricultural Impact Assessment Addendum</i>	<i>Technical Report 4 – Agricultural Impact Assessment Addendum</i> supplements the technical report prepared for the EIS and has been prepared to consider the relevant proposed amendments and refinements described in Section 4.1.
<i>Technical Report 7 – Social Impact Assessment Addendum</i>	<i>Technical Report 7 – Social Impact Assessment Addendum</i> supplements the technical report prepared for the EIS and has been prepared to consider the relevant proposed amendments and refinements described in Section 4.1.
<i>Technical Report 8 – Landscape Character and Visual Impact Assessment Addendum</i>	<i>Technical Report 8 – Landscape Character and Visual Impact Assessment Addendum</i> supplements the technical report prepared for the EIS and has been prepared to consider the relevant proposed amendments and refinements described in Section 4.1.
<i>Technical Report 9 – Noise and Vibration Impact Assessment Addendum</i>	<i>Technical Report 9 – Noise and Vibration Impact Assessment Addendum</i> supplements the technical report prepared for the EIS and has been prepared to consider the relevant proposed amendments and refinements described in Section 4.1.
<i>Technical Report 10 – Phase 1 Contamination Assessment Addendum</i>	<i>Technical Report 10 – Phase 1 Contamination Assessment Addendum</i> supplements the technical report prepared for the EIS and has been prepared to consider the relevant proposed amendments and refinements described in Section 4.1.
<i>Technical Report 11 – Hydrology and Flooding Impact Assessment Addendum</i>	<i>Technical Report 11 – Hydrology and Flooding Impact Assessment Addendum</i> supplements the technical report prepared for the EIS and has been prepared to consider the relevant proposed amendments and refinements described in Section 4.1.
<i>Technical Report 12 – Surface Water and Groundwater Impact Assessment Addendum</i>	<i>Technical Report 12 – Surface Water and Groundwater Impact Assessment Addendum</i> supplements the technical report prepared for the EIS and has been prepared to consider the relevant proposed amendments and refinements described in Section 4.1. The addendum report has also addressed issues raised in the NSW DCCEEW Water submission as relevant to the amended project.
<i>Technical Report 13 – Bushfire Risk Assessment Addendum</i>	<i>Technical Report 13 – Bushfire Risk Assessment Addendum</i> supplements the technical report prepared for the EIS and has been prepared to consider the relevant proposed amendments and refinements described in Section 4.1. The addendum report has also addressed issues raised in the NSW Rural Fire Service submission as relevant to the amended project.
<i>Technical Report 16 – Revised Traffic and Transport Impact Assessment</i>	<i>Technical Report 16 – Revised Traffic and Transport Impact Assessment</i> provides a full update of the technical report to the same level of assessment and content as carried out for the EIS. The revised report has included the relevant proposed amendments and refinements described in Section 4.1.
<i>Technical Report 17 – Air Quality Impact Assessment Addendum</i>	<i>Technical Report 17 – Air Quality Impact Assessment Addendum</i> supplements the technical report prepared for the EIS and has been prepared to consider the relevant proposed amendments and refinements described in Section 4.1.

4.3. Enabling Works Management Plan

Pre-construction enabling work was described in Chapter 26 (Environmental Management) of the EIS as work that needs to be carried out before the start of the main construction work. Pre-construction enabling work will be subject to an Enabling Works Management Plan (EWMP), Environmental Work Method Statements and the construction contractors' Environmental Management Systems. Further to Section 26.1 of the EIS, an EWMP has been prepared by the construction contractors. It is proposed to be submitted to the Department of Planning, Housing and Infrastructure (DPHI) as a standalone document for approval as part of the planning approval documentation, which also includes this Submissions Report and the Amendment Report.

The purpose of the EWMP is to provide detail about the types of enabling works required to be carried out following planning approval and before the start of the main construction work and how these works will be managed to minimise environmental and community impacts. The EWMP will also detail the environmental objectives and targets associated with the enabling works, compliance obligations, mitigation measures and the roles and responsibilities of the construction contractors.

The preparation of the EWMP and its purpose has been discussed with DPHI and was also raised during government agency and local council briefings for the amended project (refer to Chapter 5 (Engagement) and Appendix D (Engagement Outcomes Report) of the Amendment Report). Prior to and following planning approval, the construction contractors will further engage with government agencies and local councils in implementing the EWMP. In addition, the construction contractors will issue community notifications prior to the commencement of any enabling works and at regular intervals during the enabling works program. Notifications will outline forthcoming work activities, any potential impacts, and work progress.

4.4. Clarifications and corrections

Several clarifications and corrections to the EIS have been raised during and following the public exhibition of the EIS. The clarifications and corrections were identified in submissions from government agencies and the community, Community Consultative Group (CCG) engagement, or during further review and assessment as part of the Amendment Report.

4.4.1. Hillas Farm Homestead and Outbuildings mapping

The Heritage Council of NSW submission identified that Hillas Farm Homestead and Outbuildings (SHR no. 00301) at Hanworth Road, Bannaby was missing from Figure 3-1 from *Technical Report 3 – Historic Heritage Impact Assessment* of the EIS.

On review, it was confirmed that the Hillas Farm Homestead and Outbuildings were inadvertently omitted from Figure 3-1 from *Technical Report 3 – Historic Heritage Impact Assessment* of the EIS. However, the SHR item was considered as part of the assessment. In addition, the location of Hillas Farm Homestead and Outbuildings was shown on Figure 10-1 of the EIS.

Section 5.11 provides further detail regarding Hillas Farm Homestead and Outbuildings and Heritage Council of NSW's concerns.

4.4.2. Photomontage reference

During the public exhibition period, a community member identified that there was an incorrect reference to a photomontage being prepared for Viewpoint 10 in Attachment E – Viewpoint location plan (Ellerslie Range to Tumut and Batlow) of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS. A community submission also raised concerns that the photomontage for Viewpoint 10 was omitted (refer to Section 7.4.7.1).

On review, it was confirmed that Attachment E – Viewpoint location plan (Ellerslie Range to Tumut and Batlow) of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS did incorrectly have a reference indicating a photomontage had been prepared for Viewpoint 10. No photomontage for Viewpoint 10 was prepared as part of the EIS. As discussed in Section 4.7 of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS, the photomontage locations were chosen to illustrate views from areas with the greatest visual sensitivity and where the greatest number of viewers would be located. As such, not all 28 viewpoints assessed in the EIS had an associated photomontage prepared.

4.4.3. Receiver O43 detailed visual impact assessment

Reviewing the information provided in Table 7-3 and Attachment G of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS following public exhibition, it was noted that incorrect details were used to support the visual impact assessment of Receiver O43.

Receiver O43 is located approximately 270 metres from the project. As part of the detailed assessment of visual impact from dwellings, Receiver O43 was identified as having a ‘moderate’ potential visual impact based on:

- some intervening landform and vegetation
- existing view to existing transmission lines
- project footprint beyond existing transmission lines with a change in direction.

However, on review of this reasoning, it was noted that the project would be closer than the existing transmission lines, which are further south and likely not to be seen prominently in views from this dwelling. As such, there would also not be any intervening landform to help minimise potential visual impacts. Consequently, the scale of impact would be increased to ‘high-moderate’.

As receiver O43 was already likely to experience a ‘moderate’ impact, they were already subject to revised mitigation measure LV5 (refer to Appendix B (Updated mitigation measures)). As such, the increase in impact does not change the consideration or type of mitigation to be implemented.

Technical Report 8 – Landscape Character and Visual Impact Assessment Addendum of the Amendment Report includes the corrected assessment for receiver O43.

4.4.4. Sensitive receiver mapping

During the preparation of the EIS, sensitive receivers were identified to quantify potential impact assessments for noise and vibration, air quality, and landscape, character and visual amenity. Sensitive receivers are locations where people are likely to work or reside, which may include a dwelling, school, hospital, place of worship, office or public recreational area. Generally, sensitive receivers assessed in the EIS were determined through a review of aerial imagery, site inspections and engagement with landowners during the project development.

Since the public exhibition of the EIS, several minor updates to the assessed sensitive receivers have been identified based on landowner feedback and additional ground-based investigations. The updates include:

- removing 27 receivers from consideration as they have been re-classified as non-sensitive because they have been confirmed to be sheds, uninhabited structures, demolished or similar
- relocating 10 sensitive receivers around 10 to 30 metres to represent the dwelling location more accurately
- identifying one additional sensitive receiver in the Windowie region about 35 metres to the west of an existing receiver.

New sensitive receivers have also been identified for the assessment of the proposed amendments and refinements described in Section 4.1, where required. Where moderate or higher impacts on new sensitive receivers were identified, targeted consultation was undertaken to share the outcomes of the assessment. It should be noted that sensitive receivers would continue to be reviewed during the detailed design process and as part of ongoing community and stakeholder engagement.

The assessment implications of the minor updates to sensitive receivers are provided in *Technical Report 8 – Landscape Character and Visual Impact Assessment Addendum*, *Technical Report 9 – Noise and Vibration Impact Assessment Addendum* and *Technical Report 17 – Air Quality Impact Assessment Addendum* of the Amendment Report.

Section 7.4.7.2 of this report also considers three sensitive receivers in the Merrill region identified by a submitter that were inadvertently omitted from *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS. The three receivers range between 560 metres and 1.5 kilometres from the amended project footprint. Additional assessment was undertaken as part of the Amendment Report and confirmed it is unlikely that these sensitive receivers would experience moderate or higher visual impacts.

4.4.5. Traffic and transport impact assessment

During the public exhibition, a member of the CCG queried the accuracy of Figure 6-2 of *Technical Report 16 – Traffic and Transport Impact Assessment* of the EIS and the corresponding section in the digital EIS. Figure 6-2 was prepared to illustrate the distributed construction traffic on roads within the traffic study area for the EIS. The figure used a red/yellow/green rating scale to show the expected duration of impacts.

The red/yellow/green rating scale in the legend of Figure 6-2 of *Technical Report 16 – Traffic and Transport Impact Assessment* of the EIS showed “most impact” for red and “least impact” for green. However, the accompanying text described the duration of impacts within the traffic study area rather than the level of impacts. The corresponding section in the digital EIS had “most use” for red and “least use” for green in the red/yellow/green rating scale in the legend. However, the colour coding on the figure did not match the anticipated use of roads during construction, eg roads that would be frequently used were shown green (ie least use). Following review, it was noted that Figure 6-2 and the accompanying text did not align which may have resulted in confusion. The review also noted that the issue with the corresponding figure in the digital EIS was an interpretation issue when transferring the information from *Technical Report 16 – Traffic and Transport Impact Assessment* of the EIS into a digital format.

Consequently, Figure 6-2 has been revised for *Technical Report 16 – Revised Traffic and Transport Impact Assessment* of the Amendment Report and includes a simplified legend and colour coding to show the duration of impacts from the distributed construction traffic on roads within the amended traffic study area. As access to the digital EIS is no longer available (refer to Section 2.2.6), a separate correction to the corresponding section in the digital EIS is not possible or required.

The query raised at the CCG meeting has been responded to and updated figures to illustrate the mapping changes have been presented at the CCG meeting in March 2024.

4.4.6. Waste generation and beneficial reuse of material onsite

Based on further construction planning and design development (including the amendments and refinements discussed in Section 4.1) following the public exhibition of EIS, the estimated waste quantities in Table 23-3 of the EIS were reviewed. The review identified that the amounts estimated for spoil comprising virgin excavated natural material (VENM) require clarification.

The estimated quantities of 200,000 to 300,000 cubic metres for VENM are based on the indicative disturbance area of the amended project. Material beneficially reused onsite for balancing cut and fill volumes is not considered a waste stream or accounted for in these estimated quantities. Where possible, VENM would be reused onsite in accordance with the approach detailed in Table 23-4 of the EIS.

5. Response to government agency and public authority submissions

This chapter provides responses to the issues raised in submissions by government agencies and public authorities, which have been listed and addressed alphabetically.

Issues raised by government agencies and public authorities have been presented generally verbatim and in the same order as provided in their submission. However, some minor editing or summarising has been undertaken to provide sufficient background to the issue or to improve the readability as a standalone issue.

In addition, with the restructuring of the Department of Planning and Environment (DPE) on 1 January 2024, several of the agencies that provided a submission on the EIS have had administrative and name changes. The previous agency name has been used in the headings below for clarity. However, their new name has also been identified and is used in responses.

5.1. Airservices Australia

Issue raised

Airservices Australia notes that the Environmental Impact Statement (EIS) contains Airservices Australia's response to previous comments raised on *Technical Report 14 – Aviation Impact Statement* of the EIS. Therefore, Airservices Australia has no further comments.

Response

Transgrid notes the position of Airservices Australia and will consult with Airservices Australia during further detailed design of the transmission line structures. Transgrid will also provide the coordinates and elevations of the transmission line structures as per revised mitigation measure HR6 (refer to Appendix B (Updated mitigation measures)).

5.2. Australian Rail Track Corporation

Issue raised

Australian Rail Track Corporation (ARTC) has no objections to the location for the construction of the proposed transmission line subject to the location of the crossing being 80 metres clear of the northern abutment of the rail bridge at 323.290 kilometres.

Response

Transgrid notes and accepts ARTC has no objection to the project under the condition that the proposed transmission line is located more than 80 metres from the northern abutment of the rail bridge, located near the Hume Highway. Transgrid confirms that the final design of the transmission line would be designed to comply with this ARTC setback requirement, unless otherwise agreed.

Issue raised

Transgrid will need to enter a licence agreement with ARTC for the construction and ongoing tenure of the infrastructure over the railway line. ARTC will not agree to an easement over the rail corridor.

Response

Transgrid understands a New Infrastructure Licence is required for the construction and ongoing tenure of the infrastructure over the railway line and is currently negotiating with ARTC to achieve a suitable outcome regarding this matter.

Issue raised

ARTC fees to be payable (noting these are subject to change) for the licence agreement would include:

- application
- ongoing licence rental fees
- project-specific third party review costs.

Response

The fees to be payable are currently being discussed between Transgrid and ARTC as part of the New Infrastructure Licence agreement.

Issue raised

Design, construction and corridor entry needs to be in accordance with:

- ARTC Network Rules and Procedures including but not limited to RLS-PR-003
- ARTC Standards, Policies and Procedures
- any relevant Australian Standards
- all relevant safety documentation including but not Safe Work Method Statement relating to working in the rail corridor
- ARTC's Environmental Protection Licence.

Response

Transgrid has been in consultation with ARTC since September 2022 and will continue to undertake consultation regarding the specific requirements of the safety documentation. Transgrid confirms that the final design of the transmission line would be designed to comply with any relevant ARTC and Australian Standards. All relevant safety documentation would be submitted for works that are required to be undertaken within the rail corridor operated by ARTC. Additionally, ARTC Third Party Works and appropriate safe working applications would be requested in accordance with ARTC protocols.

The need to follow the requirements of ARTC's Environmental Protection Licence (EPL) is noted. Transgrid and the construction contractors will work with ARTC and the EPA in accordance with the EPL where required.

Issue raised

ARTC raised the following Special Conditions that would be applicable to a licence agreement with ARTC:

- any works are not to have a negative impact on ARTC operations
- services searches, surveys or other preliminary corridor entry to be conducted under separate ARTC approval.

Response

Transgrid notes the issues raised by ARTC and will continue to consult with ARTC to achieve a suitable outcome regarding this matter. In addition, any ARTC Third Party Works applications would be requested in accordance with ARTC protocols.

5.3. Civil Aviation Safety Authority

Issue raised

If the advice, processes, consultation etc in the *Technical Report 14 – Aviation Impact Statement* of the EIS are implemented, an acceptable level of aviation safety should be achieved. Civil Aviation Safety Authority (CASA) has no specific recommended conditions, although two recommendations in *Technical Report 14 – Aviation Impact Statement* of the EIS could be enhanced.

Response

Transgrid notes that the expected outcome of an acceptable level of aviation safety should be achieved by implementing mitigation measure HR7 and revised mitigation measures HR6 and HR8 and the advice, processes and consultation outlined in *Technical Report 14 – Aviation Impact Statement* of the EIS. The enhancements to recommendations as suggested by CASA are addressed in the response to issues below.

Issue raised

Further to Recommendation 1, Airservices (Airport.Developments@AirservicesAustralia.com) should verify any potential infringements of PANS-OPS surfaces by cranes. Airservices may propose alternative mitigations and advice.

Response

Consultation with Airservices Australia occurred during the development of *Technical Report 14 – Aviation Impact Statement* of the EIS during which they provided their assessment response. In addition, Airservices Australia provided a submission during the EIS public exhibition in which they confirmed Airservices Australia had no further comments in regard to the project.

Issue raised

Further to Recommendation 3, it is recommended that the Aerial Application Association of Australia (AAAA) is also provided details of the project, including location and height information of the finalised design of the transmission line and structures. The AAAA may recommend specific markers.

Response

Mitigation measure HR6 has been revised to address CASA's recommendation. Refer to Appendix B (Updated mitigation measures) for revised mitigation measure HR6.

Issue raised

Sundry notes, not expected to be included in conditions, for information only, are as follows:

- Further to Recommendation 5, CASA assesses structures infringing an Obstacle Limitation Surface (OLS) or 100m+ above ground level. Obstacle lighting and marking of the transmission line structures outside or not infringing an OLS would be a decision for the Planning Authority; possibly with advice from the AAAA, aircraft landing areas (ALA) users, ALA operators and CASA, for example.
- Further to the 12th dot point, CASA will assess the cranes in detail from an obstacle perspective on receipt of a request from Wagga Wagga Aerodrome. It may be that obstacle lighting is not required, unless the cranes intend to work at night.
- Further to 3.4.1. 'Assessment of non-certified aerodromes'; as far as this office is aware, "CASA recommends that an area of interest within a three nautical miles (5.56 kilometres) radius of an ALA" is not official CASA policy.

Response

The additional sundry notes provided by CASA are noted. The Department of Planning, Housing and Infrastructure (DPHI) (formerly DPE) will consider conditions of approval during the preparation of the assessment report for the project. In considering the need for conditions of approval, DPHI may seek advice from government agencies that administer or regulate the impacts of State significant projects.

In addition, consultation with Wagga Wagga Aerodrome will be carried out during detailed design and further construction planning to ensure potential construction-related issues are managed.

CASA's comment on non-certified aerodromes is acknowledged. Transgrid understands that the three nautical miles radius 'area of interest' is not CASA policy, but it is included as an important area surrounding an uncertified aerodrome in which preparation for landing and initial climb from the runway are conducted. CASR 91.277 prescribes that any visual flight rules aircraft landing at night and intending to land at an aerodrome cannot descend below the applicable safety height of 1,000 feet above the terrain and known obstacles, such as a transmission line and transmission line structures, until within three nautical miles of that aerodrome.

Issue raised

In summary, CASA has no objections to the proposed HumeLink transmission line project.

Response

Transgrid notes CASA's position towards the project.

5.4. Department of Planning and Environment – Biodiversity, Conservation and Science Directorate

The former Department of Planning and Environment – Biodiversity, Conservation and Science Directorate (now NSW Department of Climate Change, Energy, the Environment and Water – Environment and Heritage (NSW DCCEEW Environment and Heritage) provided a submission on the EIS, and the *Technical Report 1 – Biodiversity Development Assessment Report*, dated 8 November 2023. Due to the complexity of the submission received, a more detailed response to the biodiversity related issues raised by NSW DCCEEW Environment and Heritage is included in Appendix C (NSW Department of Climate Change, Energy, the Environment and Water – Environment and Heritage detailed response).

Responses to NSW DCCEEW Environment and Heritage's issues associated with flooding are provided below.

5.4.1. Flooding

Issue raised

As the proposed development has the potential to be impacted by flooding, it should address the standard flood-related SEARs and be assessed in accordance with the NSW Government's *Flood Prone Land Policy* as set out in the *NSW Flood Risk Management Manual, 2023*. Broadly, this should include an assessment of the impact of flooding on the development, the impact of the development on flood behaviour and the impact of flooding on the community.

To demonstrate compliance with the SEARs and consistent with the Flood Risk Management Manual, the proponent may find the Flood Impact and Risk Assessment Guideline useful to address the gaps in flood impact assessment identified.

Response

NSW DCCEEW Environment and Heritage's recommendation to review the *Flood Impact and Risk Assessment guideline* (DPE, 2023a) is noted.

As per Section 1.4 of *Technical Report 11 - Hydrology and Flooding Impact Assessment* of the EIS, the assessment was prepared in accordance with the relevant SEARs issued for the project on 14 March 2022. The relevant flood-related SEARs required "an assessment of the potential flooding impacts and risks of the project".

Additionally, *Technical Report 11 - Hydrology and Flooding Impact Assessment* of the EIS was prepared in accordance with the *Floodplain Development Manual* (Department of Infrastructure, Planning and Natural Resources (DIPNR), 2005) and in consideration of the *NSW Flood Prone Land Policy*. The *Flood Risk Management Manual* (DPE, 2023b) is an update to the *Floodplain Development Manual* (DIPNR, 2005) and was released in June 2023. The new guidelines were not publicly available for consideration during the preparation of the flooding assessment or when the SEARs were issued. Due to the level of assessment and associated design work that has been undertaken for the EIS project, it is not considered reasonable that the new guidelines be applied.

An addendum to the EIS flooding assessment has been prepared to assess the potential flooding impacts and risks of the proposed amendments and refinements to the project. This assessment is included in *Technical Report 11 – Hydrology and Flooding Impact Assessment Addendum* of the Amendment Report and is consistent with the approach described above for *Technical Report 11 - Hydrology and Flooding Impact Assessment* of the EIS. The intention is for *Technical Report 11 – Hydrology and Flooding Impact Assessment* of the EIS to be read in conjunction with the *Technical Report 11 – Hydrology and Flooding Impact Assessment Addendum* of the Amendment Report, as this follows the same methodology. The same guidelines have been used for both reports to ensure consistency when presenting the results. It is to be noted that *Technical Report 11 – Hydrology and Flooding Impact Assessment Addendum* of the Amendment Report only assesses the areas of the EIS project that have changed.

Issue raised

Energy supply and telecommunication infrastructure can be interdependent and are critical utilities for the community before, during and immediately after major flood events. These are required to be functional for local flood warning communications and following an event, for flood recovery by the community. As such, the flood risk assessment element of the EIS should consider risks of flooding to power shut-down potential, design measures incorporated to avoid shut-down and flood damages to the infrastructure over the full range of floods up to the Probable Maximum Flood (PMF) as set out in the NSW DCCEEW Environment and Heritage advice for flood risk assessment requirements dated 1 March 2022 (Ref: DOC22/145695).

Response

NSW DCCEEW Environment and Heritage concerns and the advice provided on 1 March 2022 are noted.

As stated in Section 4.6 of *Technical Report 11 - Hydrology and Flooding Impact Assessment* of the EIS, the hydrological and hydraulic flood modelling for the regional model focused on assessing the flood risk and immunity for the transmission line structures for a 1% annual exceedance probability (AEP) flood event. This is appropriate for the typical level of flood risk for these assets. However, the local flood models assessed the flood risk for the 1% AEP and PMF design flood immunity requirements for the substations.

Transgrid's substation design standards require the bench elevation to have a minimum of 0.5 metres freeboard above the 1% AEP flood level, and the functioning of the substation shall not be impeded when the flood level is at the 0.5% AEP flood level. The 1% AEP (ie 1 in 100 year) and 0.5 % AEP (ie 1 in 200 year) levels are considered adequate when taking into account the expected life of a substation (which is around 50 years). The substation is, therefore, designed to stay in service electrically up to a 0.5 % AEP flood event. The likelihood of the PMF (ie around a 1 in 10,000 to 1,000,000 year) flood level is extremely rare and is not covered in Transgrid's substation design standards.

The PMF assessments in *Technical Report 11 - Hydrology and Flooding Impact Assessment* of the EIS show that for the existing Wagga 330 kV substation, the area would be impacted by shallow flooding during a PMF event. However, this substation has been in service since 1970 and was built to standards applied at that time. As the existing Bannaby 500 kV substation is located in the upper reaches of its catchment, there is a very low risk of power shutdown due to PMF level event.

Due to the design refinements described in Chapter 4 (Actions taken since public exhibition), the proposed Gugaa 500 kV substation's layout and size have been adjusted and assessed in *Technical Report 11 – Hydrology and Flooding Impact Assessment Addendum* of the Amendment Report. The revised PMF assessment shows that the substation would generally remain above the PMF except for the north-west corner of the larger elevated bench footprint. Notwithstanding, the risk of power shutdown due to PMF level event would be low for the proposed Gugaa 500 kV substation as the electrical equipment would be elevated.

Issue raised

The EIS should assess the potential impact of flooding for the full range of events up to and including the PMF:

- on the proposed development including the operation of the proposed facility
- on safety of the people including access to the proposed facility.

Response

As stated above, the flood events assessed include:

- 1% AEP for the transmission line structures
- 1% AEP and PMF for substations.

The events considered for the assessment of flooding impacts and risks are considered adequate and were undertaken in accordance with the SEARs.

During a major flooding event, it is possible that some access and local roads would be inundated, eg Livingstone Gully Road would be inundated during a PMF event. As Transgrid substations are unattended and operated remotely, there is no risk to the safety of personnel for normal operations and remote switching as operational workers do not need to travel to the site for these functions. Any routine maintenance that requires a physical presence at the site can be rescheduled until after any local flooding or road inundation has subsided.

Issue raised

The EIS includes an impact assessment on flood behaviour and the environment. However, an assessment has not been undertaken to evaluate the impacts of flooding on the development, including shut-down risks, such as those associated with inundation of any elements prone to flood-related failure due to the siting and elevation of electrical components.

The EIS does not demonstrate how the facility can continue to operate to avoid the potential for shutdown of power supply and/or power storage as a result of flooding. The assessment should address any potential flow on effects of shutdown such as impacts to the telecommunications network. This may result in the design of flood sensitive components being elevated above the PMF and freeboard which appear feasible for this development proposal.

Response

As discussed in the responses above, PMF events and the risk of power shutdowns have been considered for the proposed and modified substations. It is unlikely that the proposed Gugaa 500 kV substation and existing Bannaby 500 kV substation would be at risk of a power shutdown during a PMF event. For the existing Wagga 330 kV substation, the area may be impacted by shallow flooding during a PMF event. However, when considering the likelihood of a PMF event and the expected life of a substation, it is not considered reasonable to modify existing Wagga 330 kV substation as part of the amended project.

Issue raised

The assessment on auxiliary structures such as the proposed substations does not include an evaluation over the full range of possible floods up to the PMF event. In particular, the telecommunications hut is based on the 1% AEP planning level and only the 5% AEP event was modelled for the substations in Yass and Maragle. The assessment of flood-related risks should include events up to the PMF to ensure that floods up to the PMF will not cause power shutdown or cause damages that may result in long periods of a power outage due to flood damages.

Response

Proposed and modified substations have been assessed for the 1% AEP and PMF flood events in *Technical Report 11 - Hydrology and Flooding Impact Assessment* of the EIS and *Technical Report 11 – Hydrology and Flooding Impact Assessment Addendum* of the Amendment Report. In addition, the risk of power shutdown has also been considered. The assessment of flooding impacts and risks on operational infrastructure is considered adequate and was undertaken in accordance with the SEARs.

As a result of amendments described in Chapter 4 (Actions taken since public exhibition), the need for the telecommunications hut at Killimicat has been removed for the amended project. In addition, the future Maragle 500 kV substation is being delivered under the Snowy 2.0 Transmission Connection Project. As HumeLink only requires connection work to this facility, it was considered reasonable to exclude this substation from the flooding assessments.

The existing Yass substation at Perry Street, Yass and the future Maragle 500 kV substation site are also proposed as locations for construction compounds. As stated in Section 4.6 of *Technical Report 11 – Hydrology and Flooding Impact Assessment* of the EIS, the local flood models assessed the flood risk for the 5% AEP flood immunity requirement for the construction compounds. The level of flood immunity is considered appropriate for construction compounds due to their temporary nature.

In addition, the Yass substation compound (C10) and Maragle 500 kV substation compound (C05) are only expected to experience minor flooding impacts, which will be managed with the implementation of revised mitigation measures HF3 and HF4 (refer to Appendix B (Updated mitigation measures)).

Issue raised

The EIS must assess impact of flooding on the development which includes the hydraulic loads on the power poles in the floodplain. For the relocation of transmission lines that is not possible to be outside of the identified flood risk areas or above the 1% AEP level, we recommend that a hydraulic impact assessment is undertaken to assess the hydraulic load on the proposed infrastructure, including flood debris impacts to ensure that the structural integrity is maintained and there are no adverse impacts to flood behaviour.

Response

Specific transmission line structure locations were not assessed as part of the EIS or Amendment Report. The intent is that the flood risk information was to inform detailed design to enable the structures to be designed to withstand the impact of flooding for structural stability.

Issue raised

The EIS proposes for the temporary workers accommodation facility to have a 2% AEP level of immunity. A risk assessment should be undertaken across the full range of events up to the PMF to ensure safety of future occupants and emergency management arrangements is achievable. The NSW State Emergency Service (SES) should be also consulted on this proposal as the responsible authority for emergency management planning.

Response

The 2% AEP immunity criteria for temporary worker accommodation facilities is considered appropriate for their temporary nature. As the facilities are not permanent, an assessment of PMF is considered disproportional to the risk when factoring in the duration for which the accommodation facility would be operational (ie up to 2.5 years).

As a result of stakeholder and community feedback on accommodation issues and more information on construction worker needs being provided by the construction contractors, five new worker accommodation facilities are proposed as part of the amended project (refer to Chapter 3 (Description of the amended project) of the Amendment Report for further detail). The assessment of the 2% AEP flood events for the new worker accommodation facilities has been included in *Technical Report 11 – Hydrology and Flooding Impact Assessment Addendum* of the Amendment Report.

The majority of facilities would not experience regional or local flood risks. However, Yass accommodation facility and compound (AC05) and Crookwell accommodation facility and compound (AC06) may experience some local flood risks. These risks would be managed with the implementation of revised mitigation measures HF3 and HF4 (refer to Appendix B (Updated mitigation measures)).

A Workplace Health and Safety Plan (WHSP) will be developed and will outline emergency plans for severe weather events, including potential flooding events. Relevant emergency services including NSW SES will be engaged on the WHSP and associated emergency plans.

5.5. Department of Planning and Environment – Crown Lands

DPE Crown Lands has been transferred to DPHI as part of the restructuring of DPE on 1 January 2024 and has been renamed DPHI Crown Lands.

5.5.1. For use and access to Crown land/roads/waterways

Issue raised

DPHI Crown Lands is to be referenced, prior to any use or occupation of any Crown lands, roads or waterways, during the assessment phase.

Response

Transgrid will issue the appropriate notice under section 45 of the *Electricity Supply Act 1995* before any use or occupation of Crown land occurs.

Issue raised

Authority to use, traverse, access or build infrastructure on Crown land, roads and waterways is required under the *Crown Land Management Act 2016* and/or the *Roads Act 1993*. It is recommended that the proponent contacts DPHI Crown Lands as early as possible to discuss and initiate the processes required to authorise the use of and/or access to Crown land and roads.

Response

Transgrid will continue to engage with the DPHI Crown Lands to discuss the requirements for access and/or use of Crown lands. While engagement has been underway since 2020, formal property acquisition processes for transmission line easements over Crown land only commenced in early 2024.

Issue raised

If infrastructure needs to be built on Crown land or roads, the consent of the Minister for Water, Property and Housing must be obtained, via DPHI Crown Lands, and constructed roads may need to be transferred to Council.

Response

Transgrid notes the need to obtain approval from the relevant Minister for infrastructure built on Crown lands and is in consultation with the DPHI Crown Lands regarding construction access and stringing works across Crown owned roads. The parties are also discussing whether an exemption may apply and will notify Councils where required.

Issue raised

There are multiple Crown roads, including Crown roads with enclosure permits, both within and adjoining the proposed development area. Any Crown road required for access to the development/proposal, will need to be transferred to Council, or application made to close and purchase the roads. As authority to access or use Crown roads is required prior to the commencement of any works or access, and to avoid any delays for the proposal, a tenure may be required in the interim.

Response

Transgrid acknowledges the requirement to utilise some Crown roads during the construction period and will continue to engage with DPHI Crown Lands on the requirements for access and/or use of Crown roads. In the event that access over a Crown road is required, it would likely be undertaken by utilising Transgrid's powers under section 45 of the *Electricity Supply Act 1995*.

Issue raised

If encroachment of any Crown waterways is required, authority to access and/or use the Crown waterway will be required.

Response

Transgrid would obtain easements where required in order to traverse Crown waterways. Transgrid may also elect to utilise its powers under section 45 of the *Electricity Supply Act 1995* to facilitate access for construction or commit to obtaining the relevant approvals as required.

5.5.2. Linear infrastructure traversing Crown land/roads

Issue raised

If linear infrastructure (such as pipelines and/or electricity transmission lines) are expected to traverse Crown land, roads and/or waterways, an easement over said Crown land, roads and/or waterways will be required for protection of the infrastructure. To discuss easement requirements, please contact the Acquisitions team at the earliest opportunity at: cl.acquisitions@crowland.nsw.gov.au.

In order for transmission lines to traverse Crown land and/or roads, the proponent will need to apply for easements.

It is important to note that licences or easements must be in place before infrastructure can traverse Crown land or roads. It is important to note that authority must be in place before Crown land or roads can be used, traversed, accessed or infrastructure can be built.

Response

Transgrid commits to ensuring it has rights of access prior to any activities on Crown land and/or roads, and acquiring easements where necessary for the infrastructure being constructed on Crown lands. Transgrid also acknowledges the requirements prior to the commencement of activities on Crown land or roads.

Issue raised

As the easement process may be lengthy, it is also recommended that the proponent applies for a licence for each Crown road and Crown land lot as soon as possible. A licence will temporarily authorise use and access for the infrastructure to traverse Crown roads and Crown land whilst the easement applications are being processed.

Response

Transgrid acknowledges the timeframes for this process and will apply for licences in a timely manner, should they be required.

5.5.3. Travelling Stock Reserves/Reserves/Commons/Aboriginal Land Claims/Native Title

Issue raised

There are multiple Travelling Stock Reserves (TSR) both within and adjoining the proposed development area. These are managed by (relevant area if LLS) Local Land Services and may be the subject of an undetermined Aboriginal Land Claim (ALC). As such, concurrence with the NSW Aboriginal Land Council (NSWALC) would be required. Additionally, a tenure will be required to authorise any use of and/or access to this lot, which may be subject to Native Title. This will need to occur prior to the commencement of any works.

Response

Transgrid notes the need to obtain concurrence from NSWALC should a TSR be subject to an Aboriginal Land Claim. Consultation with LLS and direct engagement with the holders of Crown leasehold lands are ongoing. Prior to the commencement of works, a tenure to authorise access will be obtained, and the LLS will be notified of the works during the construction phase so that lessees, stock handlers and other permit holders are notified of any potential impacts to stock movements.

It is also to be noted that the amended project footprint intersects a total of 21 hectares of TSR land, across a total of eight TSRs. The amended project footprint represents a reduction of 2.6 hectares of TSR land intersected compared to the EIS project footprint. Compared to the EIS there would be an increase in the number of TSRs which may be affected temporarily by restricted access to construction areas. However, these restrictions would be of a short duration during construction and stringing procedures and the impact of the project on livestock movements and the use of TSRs would be negligible.

Searches of the Register of Aboriginal Land Claims identified 13 Crown land parcels within the amended project footprint subject to Aboriginal Land Claims under the *Aboriginal Land Rights Act 1938*. This includes two TSRs, located at Bannister (Crown reserve R60709) and Wondalga (Crown reserve R17429), respectively.

In addition, searches to date of the National Native Title Register and Register of Native Title Claims did not identify any areas within the amended project footprint as the subject of a claim or determination under the *Native Title Act 1993*.

Where any undetermined Aboriginal Land Claims or Native Title claims are identified, Transgrid will work with the relevant Local Aboriginal Land Council (LALC) and NSWALC to agree on how the amended project affects these claims. For any additional Native Title claims identified Transgrid will follow relevant procedures under the *Native Title Act 1993*, as required.

Chapter 6 (Assessment of impacts) of the Amendment Report provides further detail on Aboriginal Land Claims and Native Title searches.

Issue raised

It is noted that Crown land parcels within the project area may be the subject of an undetermined Aboriginal Land Claim, which may limit how the land can be used.

Response

Transgrid notes the potential for undetermined Aboriginal Land Claims within the amended project footprint. As discussed in the above response, 13 Crown land parcels within the amended project footprint have been identified as subject to Aboriginal Land Claims. To the extent that any undetermined land claims remain, Transgrid will work with the relevant LALC and NSWALC to reach an agreement to the extent that the amended project affects the claim.

5.6. Department of Planning and Environment – Water

DPE Water has been transferred to NSW DCCEEW as part of the restructuring of DPE on 1 January 2024 and has been renamed NSW DCCEEW Water.

5.6.1. Water supply and licencing

Issue raised

The proponent should quantify the maximum annual volume of water take from each water source due to aquifer interference activities required for the project. The ability to obtain sufficient water entitlement needs to be demonstrated unless an exemption applies.

Insufficient information has been provided in the EIS to understand the potential water take due to aquifer interference activities. Water take must be quantified for the maximum potential take from each water source to understand the impacts and the ability to obtain entitlement to account for the water take. An inability to obtain the required water entitlement poses a risk to the project which needs to be addressed.

Response

Based on further construction planning and design development (including the amendments and refinements discussed in Chapter 4 (Actions taken since public exhibition)), the indicative water quantities for the amended project have been refined.

Technical Report 12 - Surface Water and Groundwater Impact Assessment Addendum of the Amendment Report estimates approximately 715 megalitres (ML) of water would be required over the construction period of which, approximately 40 per cent would be potable and the remainder non potable. This amounts

to 286 ML of potable and 429 ML non-potable water demand. This is a larger volume than presented in the EIS and is a reflection of improved estimates for the combined worker accommodation facilities and construction compounds, which also includes concrete production. The maximum water requirements for the project would be confirmed during further detailed design and construction planning.

Based on the increase in water demand during the construction of the amended project, further analysis of water sources has been carried out in *Technical Report 12 - Surface Water and Groundwater Impact Assessment Addendum* of the Amendment Report. The water source analysis complements the analysis carried out for water sources in *Technical Report 12 – Surface Water and Groundwater Impact Assessment* of the EIS.

Transgrid or the construction contractor may purchase a zero allocation Water Access Licence (WAL) in a specific Water Sharing Plan (WSP) area, which would enable them to buy water from existing groundwater allocation holders who wish to temporarily sell their water allocation (or a part of their water allocation). It should be noted that the use of groundwater from existing licensed bores would be subject to allocation holders desire to temporarily sell their water allocation (or a portion of their allocation) and water trading market conditions. Any impacts to groundwater are expected to be negligible under the assumption that the existing WALs and licensed extraction volumes have already been evaluated and deemed to be acceptable against Aquifer Interference Policy (AIP) during the application process.

Due to the variable distribution of bores with licensed extraction volume information along the amended project footprint, there are areas where sourcing non-potable water supply from existing bores is feasible and others where it may not be. As such for areas where sourcing non-potable water supply from existing bores is not feasible, the availability of surface water allocation from nearby waterway(s) with licensable take would be assessed. Revised mitigation measure SW4 as detailed in Appendix B (Updated mitigation measures) would ensure that water supply management will be undertaken in accordance with agreements between the construction contractors and relevant landowners, water users and suppliers.

Issue raised

The proponent should:

- confirm the water demand for the project construction
- confirm the required water volumes from each water source as defined in a Water Sharing Plan
- confirm the proposed water supply works to meet the water demands
- include the location and an impact assessment of the construction and operation of any new water supply work and/or additional use/demands from an existing work.

A minor discrepancy in the estimated water demands for construction was noted between Table 4-21 of the EIS which stated 510.5 ML and *Technical Report 12 – Surface Water and Groundwater Impact Assessment* of the EIS which stated 511.2 ML. This should be confirmed.

The EIS mentions multiple locations from surface water and/or groundwater to meet site demands, however there is a lack of information to confirm the suitability of these extraction points in terms of assessment of impact or water availability for the project. It is requested that specific locations to extract water within water sources be identified, and the volume of water take assessed.

NSW DCCEEW Water notes that water supply works not identified, assessed, and approved as part of the SSI approval process are likely to require a separate water supply work approval prior to construction and

use (unless exemptions under water legislation apply). The need to obtain these approvals may impact project commencement and water availability.

Response

As described in Chapter 4 (Actions taken since public exhibition), Transgrid has identified several proposed amendments and refinements to the project described in the EIS. Additional information has also been sourced from the construction contractors. As a result, the amended project has increased the construction water supply requirements. As per *Technical Report 12 – Surface Water and Groundwater Impact Assessment Addendum* of the Amendment Report it is now estimated that about 715 ML of water would be required to construct the amended project. This includes 429 ML of non-potable water and 286 ML of potable water.

The total water demand during construction is a small percentage of the total volume of water allocated under the WSPs in the amended project footprint, however the distribution of existing groundwater and surface water licenced extraction volumes is variable across the amended project footprint.

An updated review of water allocation is presented in the *Technical Report 12 – Surface Water and Groundwater Impact Assessment Addendum* of the Amendment Report. WSPs are in place for all catchments within the amended project footprint and a summary of the existing water supply are presented in present in Table 5-2 and groundwater sources detailed in Table 5-3 of *Technical Report 12 – Surface Water and Groundwater Impact Assessment Addendum* of the Amendment Report. A summary of the available bore licenced extraction volumes for each groundwater source and the associated water sharing plant is summarised in Table 6-9 of the per *Technical Report 12 – Surface Water and Groundwater Impact Assessment Addendum* of the Amendment Report. Non-potable water supply options are provided in Section 6.1 of *Technical Report 12 – Surface Water and Groundwater Impact Assessment Addendum* of the Amendment Report. It is likely that a combination of water sources would be required to meet the total non-potable water demand as the first preference of sediment basins, farm dams and rainwater tanks are unlikely to be able to meet the non-potable water demands in all locations across the amended project footprint. As such, a combination of other sources is likely required such as groundwater bores, surface waterways or waterways with existing access/extraction points.

Technical Report 12 – Surface Water and Groundwater Impact Assessment Addendum of the Amendment Report provides additional information to the EIS on the water supply required for construction and operation however the specifics would be developed during further detailed design and construction planning by the construction contractors.

Issue raised

Should groundwater be intercepted, a Water Access Licence (WAL) under the *Water Management Act 2000* must be obtained unless an exemption applies under the *Water Management (General) Regulation 2018*.

Under the *Water Management Act 2000*, if groundwater is intercepted a WAL must be obtained prior to any water take occurring unless an exemption under Clause 7 of Schedule 4 of the Water Management (General) Regulation 2018 applies. An exemption may be available if water take is less than or equal to 3 ML per water year, subject to the development meeting other exemption requirements, such as:

- the water is not taken for consumption or supply;
- the person claiming the exemption keeps a record of the water taken under the exemption and provides this to the Minister within 28 days of the end of the water year
- the records are kept for 5 years.

Response

Transgrid notes the requirement for a WAL should groundwater be intercepted unless the criteria for an exemption are met. The need for a WAL would be confirmed during finalisation of the detailed design in accordance with revised mitigation measure SW5 (refer to Appendix B (Updated mitigation measures)).

5.6.2. Groundwater impacts

Issue raised

The proponent should provide an assessment of the aquifer interference activities against the minimal impact considerations of the NSW Aquifer Interference Policy and include relevant management and mitigation requirements.

Insufficient information has been provided to quantify the potential water take and associated drawdown impacts of aquifer interference activities for the project. Aquifer interference activities must be assessed in accordance with the *NSW Aquifer Interference Policy (2012)*. It is understood most excavations will be of a low risk, such as surface excavation works and cut and fill to about five metres in depth. However, higher risk locations and activities such as blasting/excavating within 50 metres of high potential groundwater dependent ecosystems (GDEs), registered bores or surface water bodies requires further assessment against the minimal impact considerations of the *Aquifer Interference Policy*. This further assessment is to consider the local geology, hydrogeology, likely blast radius and the resulting risk to the GDE or water user, and to develop mitigating measures for inclusion in a management plan."

Response

Section 6.1.8.4 of *Technical Report 12 – Surface Water and Groundwater Impact Assessment Addendum* of the Amendment Report identifies that the AIP includes minimal impact considerations for assessing the impacts of all aquifer interference activities.

An assessment of the aquifer interference activities has been undertaken for construction impacts on groundwater by noting temporary dewatering (if required) could potentially exceed the minimal impact consideration in the AIP where shallow groundwater is encountered. However, the induced drawdowns would be temporary only and would not prevent the long-term viability of the potentially affected GDEs or water supply work. Dewatering management would be in line with the minimal impact considerations listed within the AIP, relevant WSPs and licencing requirements where relevant.

Revised mitigation measure SW5 as detailed in Appendix B (Updated mitigation measures) notes that make good provisions will need to be made to the groundwater user(s) for bores that will be affected in line with the minimal impact criteria listed within the AIP.

Further assessment has identified the potential need for controlled blasting activities during construction which may loosen silt /sand/rock particles and chemical precipitates lining fractures through vibration. Controlled blasting operations can increase turbidity of groundwater and the use of nitrates (eg ammonium nitrate) that could leach into groundwater and impact groundwater quality. Potential impacts are expected to be highly localised, as literature suggests that the distance over which the near-field breakage of intact rock and the formation of new fractures would be limited.

Twenty-one potential controlled blasting locations have been identified in the amended project footprint. NSW DCCEEW Water requested that higher risk locations and activities within 50 metres of high potential GDEs, registered bores or surface water bodies requires further assessment against the minimal impact considerations of the AIP. The potential controlled blasting locations have been spatially analysed and are expected to be located within 50 metres of 13 sensitive receivers that includes one high potential terrestrial GDE and 12 high potential aquatic GDEs as detailed in Section 6.1 of *Technical Report 12 – Surface Water and Groundwater Impact Assessment Addendum* of the Amendment Report.

New mitigation measure SW6 (refer to Appendix B (Updated mitigation measures)) would account for the management of controlled blasting. Where it is required, a suitably qualified specialist will be engaged to carry out a detailed assessment and trials (if required) to determine site-specific parameters. The assessment would identify measures to limit vibrations to the recommended “safe” levels (defined in *AS 2187.2-2006 Explosives - Storage and use*), limit rock mass damage, avoid "over-blasting" and consider potential impacts to GDEs, groundwater users and surface water bodies.

Issue raised

The proponent should meter, record and report the groundwater dewatering volume during a water calendar year (July to June) in each groundwater source and include these in annual reporting for the project.

Response

NSW DCCEEW Water’s recommendation to meter, record, and report the groundwater dewatering volume during construction is noted. Transgrid commits to annual reporting (July to June) for each groundwater source as standard practice (refer to revised mitigation measure SW5 in Appendix B (Updated mitigation measures)). These records will be available to NSW DCCEEW Water upon request.

5.6.3. Waterfront land

Issue raised

The proponent should assess the design and impacts of all works within waterfront land against the *Guidelines for Controlled Activities on Waterfront Land* (DPE, 2022).

The proponent has committed to the construction of access track watercourse crossings in accordance with the *Guidelines for Controlled Activities on Waterfront Land* (DPE, 2022). This is supported, however there is no commitment made about any other works within waterfront land. It is recommended that consideration of the *Guidelines for Controlled Activities on Waterfront Land* (DPE, 2022) be extended to include all works which would include tower locations, substations and workers accommodation.

The Tumbarumba workers accommodation and Bannaby substation are of particular concern as there are first, second and third order watercourses in proximity. The specific works, impact assessment and

proposed management for this infrastructure construction and how it meets the *Guidelines for Controlled Activities on Waterfront Land* (DPE, 2022) needs to be included.

The development of a Soil and Water Management Plan and Erosion and Sediment Control Plan in accordance with the *Guidelines for Controlled Activities on Waterfront Land* and the *Managing Urban Stormwater – Soils and Construction* Volume 1, 2A and 2C is supported.

Response

The *Guidelines for controlled activities on waterfront land* have been used to assess the project in accordance with the Planning Secretary's Environmental Assessment Requirements (SEARs). The guidelines have been considered in determining potential impacts on biodiversity (refer to Chapter 8 (Biodiversity) of the EIS) and surface water and groundwater quality (refer to Chapter 17 (Surface water and groundwater quality) of the EIS). In addition, the guidelines have been referenced as relevant guidelines to be followed during detailed design and construction of the project with regard to work on waterfront land, waterway crossings, access tracks and drainage design.

The *Guidelines for controlled activities on waterfront land* have also been considered in assessing the amended project as part of *Technical Report 12 – Surface Water and Groundwater Impact Assessment Addendum* of the Amendment Report. Where works have been identified in potential waterfront land areas, the waterfront land tool will be used, and waterfront land will be identified as per the Natural Resources Access Regulator (NRAR) documentation/e-tool. Where waterfront land is confirmed, the relevant *Guideline for controlled activity approvals* would be considered (NSW Government, 2023).

Following further construction planning and consultation with landowners, there have been changes to the number and location of construction ancillary facilities for the project, including worker accommodation facilities and construction compounds. Consequently, the project no longer requires the Tumberumba accommodation facility (AC1).

NSW DCCEEW Water's concern about modification work impacting waterfront land at the existing Bannaby 500 kV substation is noted. Chapter 17 (Surface water and groundwater quality) of the EIS summarises how the *Guidelines for controlled activities on waterfront land* have been considered in assessing proposed modification work at the existing Bannaby 500 kV substation. The main potential impact would be associated with increases in the impervious area. This may lead to water quality impacts and changes to the geomorphology of an unnamed tributary to Wollondilly River during operation. However, potential impacts would be minimised through appropriate scour protection and drainage design in accordance with *Controlled activities - Guidelines for riparian corridors on waterfront land* (DPE, 2022b), *Controlled activities - Guidelines for watercourse crossings on waterfront land* (DPE, 2022c) and other relevant guidelines.

As discussed in Chapter 17 (Surface water and groundwater quality) of the EIS, a Soil and Water Management Plan (SWMP) would be prepared as part of the Construction Environmental Management Plan (CEMP) to manage water quality impacts during the construction of the project. Preparation of the SWMP would include site-specific or activity-specific erosion and sediment control plans (ESCPs) depending on the erosion risk.

As detailed in mitigation measure SW1, the ESCP will be developed and implemented in consultation with a Certified Professional in erosion and sediment control during construction for activities and areas considered higher risk. The plan will detail the processes, responsibilities and measures to manage potential soil and water quality impacts in accordance with the principles and requirements in:

- *Managing Urban Stormwater – Soils and Construction, Volume 1* (Landcom, 2004), and Volumes 2A (DEC, 2008a) and 2C (DECC, 2008b), commonly referred to as the 'Blue Book'
- *Best Practice Erosion and Sediment Control* (IECA, 2008)
- Transgrid's Environmental Guidance Notes
- *Controlled activities - Guidelines for riparian corridors on waterfront land* (DPE, 2022b) and *Controlled activities - Guidelines for watercourse crossings on waterfront land* (DPE, 2022c).

5.6.4. Environmental management plan

Issue raised

The proponent should prepare the Soil and Water Management sub-plan of the Construction Environmental Management Plan in consultation with NSW DCCEE Water.

NSW DCCEE Water recommends the Soil and Water Management sub-plan include but not be limited to the following:

- An assessment of the risk of increased scour and/or erosion to the banks, bed or riparian zones of watercourses and appropriate mitigation measures.
- Design and mitigation measures to address geomorphic and hydraulic design principles as detailed in the following industry guidelines; *A Rehabilitation Manual for Australian Streams* (Rutherford, Jerie and Marsh, Cooperative Research Centre for Catchment Hydrology, Land & Water Resources Research and Development Corporation, Canberra 2000); *Guidelines for stabilising streambanks with riparian vegetation* (Abernethy and Rutherford, Technical Report 99/10, Cooperative Research Centre for Catchment Hydrology 1999); and *Guidelines for Protecting Australian Waterways* (Bennett, Sanders, Moulton, Phillips, Lukacs, Walker and Redfern, Land and Water Australia 2002).
- A geomorphic condition monitoring program for watercourses which are affected by the project and at risk of increased scour and/or erosion. This should identify any ongoing changes to watercourses in poor or moderate geomorphic condition and detect degradation in watercourses that are classed as being in good geomorphic condition or have high geomorphic recovery potential. A procedure to identify and address any impacts that arise should also be included.
- Construction dewatering management and groundwater mitigation measures for managing potential impacts on GDEs, bores and surface water bodies. The plan needs to be reviewed against the *Guidelines for Groundwater Documentation for SSD/SSI Projects* (DPE, 2022d).

Response

As discussed in the response in Section 5.6.3, a SWMP would be provided as part of the CEMP to manage water quality impacts during the construction of the project. Transgrid generally agrees with recommendations provided by NSW DCCEE Water but notes DPHI will consider conditions of approval during the preparation of the assessment report for the project. In considering the need for conditions of approval, DPHI may seek advice from government agencies that administer or regulate the impacts of State significant projects.

5.7. Department of Primary Industries – Agriculture

Issue raised

Department of Primary Industries (DPI) Agriculture is satisfied that *Technical Report 4 – Agricultural Impact Assessment* of the EIS has identified the potential impacts of the proposed development on agricultural land uses within the project footprint.

Response

Transgrid notes that DPI Agriculture is satisfied with the potential impacts identified on agricultural land use.

Issue raised

The mitigation measures proposed in the *Technical Report 4 – Agricultural Impact Assessment* of the EIS, and which have been replicated in the mitigation measures in Appendix D of the EIS, are considered to be appropriate. The commitments to locate infrastructure, work sites and access tracks in consultation with landowners is supported. As is the commitment to prepare individual property management plans for affected properties in consultation with landowners. These mitigation measures will be integral to avoiding or minimising impacts on agricultural production. DPI Agriculture requests that the mitigation measures specified in Table 9-1 of *Technical Report 4 – Agricultural Impact Assessment* and Appendix D of the EIS be a condition of any consent issued for the proposed development.

Response

Transgrid notes DPI Agriculture's position with regard to the mitigation measures proposed to manage the potential impact on agricultural land use and operations. DPHI will consider conditions of approval during the preparation of the assessment report for the project. In considering the need for conditions of approval, DPHI may seek advice from government agencies that administer or regulate the impacts of State significant projects.

5.8. Department of Primary Industries – Fisheries

Issue raised

Generally, DPI Fisheries concur with the conclusions of the aquatic ecology assessment. It is noted that the construction process for the transmission line structures and associated transmission lines would largely avoid direct impacts to streams including the major waterways and the majority of streams included in Key Fish Habitat (KFH) mapping within the project footprint.

Response

DPI Fisheries' position that they generally concur with the conclusions of the aquatic ecology assessment is noted.

Since the EIS was exhibited, ongoing design and construction methodology development has identified new access tracks or upgrades to existing access tracks to connect construction areas and the transmission line easement to the existing road network. Chapter 3 (Description of the amended project) of the Amendment Report provides further detail on anticipated work associated with new and upgraded access tracks.

As discussed in Chapter 5 (Engagement) of the Amendment Report, DPI Fisheries has been consulted in November 2023 regarding the new and upgraded access tracks, including the need for additional waterway crossings of KFH. DPI Fisheries was subsequently provided the locations of the additional waterway crossings of KFH for the amended project in February 2024. Advice provided by DPI Fisheries has been included in *Technical Report 1 – Revised Biodiversity Development Assessment Report* where relevant.

Issue raised

It is noted that Vegetated Riparian Zones (VRZs) based on stream order as stipulated by Natural Resources Access Regulator (NRAR) have been applied in place of the riparian buffer zones outlined in the *Policy and Guidelines for Fish Habitat Conservation and Management (Update 2013)*.

Response

Technical Report 1 – Biodiversity Development Assessment Report of the EIS identified the approach to defining VRZs. The adopted riparian corridor VRZ widths for the assessment are those detailed in the *Controlled activities - Guidelines for riparian corridors on waterfront land* (DPE, 2022b), as these were required to be addressed by the SEARs and are similar to the requirements in Attachment E of the *Biodiversity Assessment Method* (Department of Planning, Industry and Environment (DPIE), 2020a). As such, the VRZ widths allow for a consistent assessment in *Technical Report 1 – Biodiversity Development Assessment Report* of the EIS.

The VRZs defined in the *Policy and Guidelines for Fish Habitat Conservation and Management (Update 2013)* are typically much greater and, in many places (in particular, land subject to agricultural uses), would exceed the existing level of vegetated riparian vegetation present in the project footprint.

Further clarification of the above has been included in Section 4.8.3 of *Technical Report 1 – Revised Biodiversity Development Assessment Report*.

Issue raised

Oolong Creek has been assessed as a Class 2 Moderate KFH waterway, however there is a Southern pygmy perch population in this creek. The Southern pygmy perch is listed under threatened species provisions of both the *Fisheries Management Act 1994* and *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). As Oolong Creek provides habitat for a threatened species, the classification of Type 1 Class 1 KFH would be appropriate. The proposed waterway crossings at Oolong Creek should consider this classification.

Works within the Oolong Creek waterway should be avoided in September, October, November and December inclusive, the breeding season for Southern pygmy perch.

Response

In March 2024, DPI Fisheries provided Transgrid with further information to explore opportunities to incorporate a fish passage barrier in any waterway crossings of Oolong Creek to prevent the upstream incursion of Carp (*Cyprinus carpio*) and Redfin Perch (*Perca fluviatilis*) to protect any Southern Pygmy Perch (*Nannoperca australis*) population. At this stage, the new and upgraded access tracks required for the amended project would not require a waterway crossing of Oolong Creek. If, however, following the completion of further detailed design, a waterway crossing of Oolong Creek is required, a fish passage barrier will be implemented to prevent the upstream incursion of Carp and Redfin Perch in Oolong Creek (refer to Appendix B.1 (Updated biodiversity mitigation measures)). The suggested reclassification of

Oolong Creek is noted and has been included in *Technical Report 1 – Revised Biodiversity Development Assessment Report*.

Notwithstanding, 192 indicative waterway crossings designated as Type 1 Class 1 KFH are proposed as part of the amended project as detailed in Section 10.2 of the *Technical Report 1 – Revised Biodiversity Development Assessment Report*. Management of these crossings, including consultation with DPI Fisheries and pre-construction surveys, will be in accordance with mitigation measures detailed in Appendix B.1 (Updated biodiversity mitigation measures).

Issue raised

The construction of all watercourse crossings or services through KFH should be in accordance with DPI document *Policy and Guidelines for Fish Habitat Conservation and Management (Update 2013)*. The proponent has indicated that they intend to follow these requirements in their approach to temporary waterway crossings by developing a standard construction methodology for access tracks and waterway crossings, aligning with the relevant guidelines.

To reinstate fish passage, any temporary crossings should be fully removed upon completion of works.

Response

Mitigation measures outlining the project's commitment to constructing waterway crossings, which reference DPI Fisheries' *Policy and Guidelines for Fish Habitat Conservation and Management (Update 2013)* are provided in Appendix B.1 (Updated biodiversity mitigation measures). Chapter 4 (Project description – construction) of the EIS provides further details of proposed waterway crossings, including the indicative methodology and relevant guidelines that would inform the design, construction, and maintenance of the crossings.

Any temporary waterway crossings will be removed and rehabilitated at the completion of their operational use (refer to Appendix B.1 (Updated biodiversity mitigation measures)).

Issue raised

Consultation with DPI Fisheries should occur regarding stockpiling of felled trees from the footprint of the development for use as large woody debris to rehabilitate and improve the habitat quality of KFHs.

Response

The opportunity to stockpile and supply felled trees for KFH rehabilitation or improvement work has been included in mitigation measures provided in Appendix B.1 (Updated biodiversity mitigation measures). Transgrid and its construction contractors will discuss this opportunity with DPI Fisheries during construction planning.

5.9. Fire and Rescue NSW

Issue raised

Fire and Rescue NSW (FRNSW) deems that the proposal has limited scope and application in regard to special hazards or special problems of firefighting. FRNSW submits no comments or recommendations for consideration, nor any requirements beyond that specified by applicable legislation.

Response

Transgrid notes FRNSW's position towards special hazards or problems for firefighting. Transgrid will continue to consult with FRNSW during further detailed design and provide FRNSW an opportunity to review the project's fire and life safety systems, and their configuration as described in Chapter 6 (Engagement) of the EIS.

Issue raised

FRNSW understands that while there is currently no requirement for a Fire Safety Study, FRNSW may recommend one be undertaken at a later stage should information be provided such that the development is deemed to pose special problems of firefighting or special hazards exist that require additional fire safety and management measures.

Response

Transgrid recognises that FRNSW may recommend a Fire Safety Study, if considered necessary. Transgrid will continue to consult with FRNSW during further detailed design and provide FRNSW an opportunity to review the project's fire and life safety systems.

5.10. Forestry Corporation of NSW

5.10.1. General

Issue raised

Forestry Corporation of NSW (FCNSW) would welcome the opportunity to provide further detail on any of the matters raised in the attached submission and expects that most of these matters would necessitate detailed direct discussion with the project proponent.

FCNSW's submission is indicative only and not a comprehensive assessment. The Transgrid project manager has consulted with FCNSW during the development of its proposal and FCNSW expects to continue engaging directly to ensure all relevant matters are considered and addressed appropriately.

Response

FCNSW's offer to consult further on the matters raised in its submission is noted. Transgrid regularly engages with FCNSW on all projects that may affect its land.

Transgrid is currently engaging FCNSW regarding the quantum of compensation payable to FCNSW in relation to the relevant legislation that applies to this matter. Consultation remains ongoing, with several meetings held as noted in Chapter 2 (Engagement), and Chapter 5 (Engagement) of the Amendment Report.

Issue raised

Transgrid's HumeLink project proposal will impact up to 700 hectares of Bago, Green Hills and Red Hills State Forests. While the full impact cannot be calculated until the route is finalised and the precise location of infrastructure determined, initial assessments indicate around two-thirds of the impacted area would comprise established softwood timber plantations of various ages or plantation land that is scheduled to be replanted, and the remaining third would comprise native forest managed for multiple uses.

Response

The project's impact on Bago, Green Hills, and Red Hills State Forests is noted and considered in Chapter 11 (Land use and property) and Chapter 12 (Economic) of the EIS. As stated in Chapter 4 (Actions taken since public exhibition), the project has been amended following the EIS public exhibition to include the Green Hills corridor amendment. This amendment has impacted additional forestry land, mainly consisting of softwood plantations. Whilst this land is largely softwood plantations, a large area of these plantations has been previously impacted by bushfires and is currently clear of trees or consists of replanting in more recent years. Overall, the amended project would result in up to 614.7 hectares of forestry land use areas being permanently cleared, 440 hectares of production native forestry land and about 20 hectares of plantation forestry land compared to the EIS project footprint.

Consultation with FCNSW is ongoing regarding the impact on forestry land, including finalising transmission line easements and associated compensation.

Issue raised

The establishment of transmission infrastructure would require permanent clearing of forest and result in the sterilisation of the cleared land for future timber production or other forestry uses. FCNSW will require adequate and suitable replacement land in the impacted region to grow replacement forests to deliver ongoing timber supply, regional socio-economic value, environmental values and community use in line with its objectives.

Response

The need to compensate FCNSW for the loss of forestry land was discussed in Chapter 11 (Land use and property) of the EIS. Transgrid is currently negotiating with FCNSW regarding compensation for the loss of forestry land due to the amended project, including identifying suitable areas to grow replacement forests.

5.10.2. Legislation

Issue raised

It is understood that the HumeLink proposal would involve construction of transmission infrastructure over up to 700 hectares of State forest. Where Transgrid's activities on State forest would result in the removal of timber, a licence for the removal of that timber is required pursuant to the *Forestry Act 2012*. The licence would be required for timber removal on behalf of FCNSW, where the construction contractor is required to undertake this activity.

Response

As noted in responses provided in Section 5.10.1, the area of forestry land impacted has been revised for the amended project due to the realignment of the transmission line route through Green Hills State Forest to the west of Batlow. Notwithstanding, FCNSW's position on needing a licence for removing timber from forestry land impacted by the project is noted. Transgrid regularly consults with FCNSW on all projects that may affect its land and is currently working with FCNSW to achieve a suitable outcome regarding this matter for HumeLink and other projects.

Issue raised

In terms of securing long-term tenure, FCNSW understands Transgrid would seek easements over the affected State forests for ongoing access and operational and maintenance requirements in the transmission corridor. Under section 34 of the *Forestry Act 2012*, easements over State Forest may only be

granted by the Minister for Agriculture administering the *Forestry Act 2012* on such terms and conditions as the Minister thinks fit.

Response

The approach to securing easements through State Forest is discussed in Chapter 3 (Project description – infrastructure and operation) of the EIS. However, Transgrid acknowledges the FCNSW’s position on easements for ongoing access and operational and maintenance requirements and is currently working with FCNSW to achieve a suitable outcome regarding this matter.

5.10.3. Socio-economic considerations

Issue raised

The Bago, Green Hills and Red Hills State Forests are situated in the Snowy Valleys Local Government Area (LGA). Forestry, timber processing and tourism are identified as economic drivers for the LGA, and key contributors to the region’s economy.

Response

The importance of Bago, Green Hills, and Red Hills State Forests to the Snowy Valleys LGA and surrounding region is noted and considered in the EIS, and subsequently in the Amendment Report.

The potential impacts and mitigation measures considered in the EIS include:

- forestry land use impacts – refer to Chapter 11 (Land use and property) and *Technical Report 5 – Land Use and Property Impact Assessment* of the EIS
- economic impacts on forestry operations – refer to Chapter 12 (Economic) and *Technical Report 6 – Economic Impact Assessment* of the EIS
- social-related impacts on forestry land, including tourism and amenity-related impacts – refer to Chapter 13 (Social), Chapter 14 (Landscape character and visual amenity), *Technical Report 7 – Social Impact Assessment*, and *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS.

Chapter 6 (Assessment of impacts) of the Amendment Report provides further consideration of impacts to Green Hills State Forest due to the transmission line corridor amendment to the west of Batlow.

Transgrid is currently negotiating with FCNSW regarding compensation for the loss of forestry land due to the amended project, including identifying suitable areas for replacement forestry land.

Issue raised

The transmission corridor would require permanent clearing of forested land to establish infrastructure that is expected to remain in place for perpetuity. While it is understood that the final easement would be surveyed following the completion of construction, it is expected to be up to 100 metres wide, impacting up to 700 hectares of these State forests.

Response

The design life of the project is currently 50 years and this can be extended to more than 70 years. The transmission line easement would be initially cleared and require ongoing vegetation management to ensure safe electrical clearances during the operation of the transmission lines. The easement for the new 500 kV transmission lines would typically be 70 metres wide. However a few locations (such as at

transposition locations) may require easements up to 110 metres wide and up to 130 metres wide where the new 500 kV transmission line would parallel the relocated section of Line 51. The easement generally identifies the zone of initial vegetation clearance and ongoing vegetation management in which FCNSW has indicated that restrictions around planting would occur due to FCNSW operational requirements.

The approach to securing easements through State forests is discussed in Chapter 3 (Project description – infrastructure and operation) of the EIS. As noted above in Section 5.10.2, Transgrid is currently working with FCNSW to secure easements through forestry land, including native and plantation forests. Revised calculations of the impacts to State forests are provided in Chapter 6 (Assessment of impacts) of the Amendment Report.

Issue raised

It is understood that Transgrid can enter State forest to construct certain works pursuant to the *Electricity Supply Act 1995*. However, any further authorisations required on State forest (such as to clear timber) will need to accord with statutory objectives set out in the *Forestry Act 2012* and *Plantations and Reafforestation Act 1999*.

Response

Transgrid notes the FCNSW's position on access requirements to forestry land and is currently working with FCNSW to achieve a suitable outcome regarding this matter. Both parties have sought legal advice to ensure all statutory requirements are met.

Issue raised

While easements over cleared agricultural land enable the impacted land to continue being used for other agricultural purposes such as grazing and cropping, the establishment of a powerline easement up to 100 metres wide and associated infrastructure not only requires the initial and permanent clearing of forest, but it also sterilises the impacted land for future forestry and community use. The sterilisation of timbered land reduces the timber plantation footprint and, as a result, ongoing timber supply. The loss of potential long-term forestry uses and effects on the visitor economy due to the permanent clearing of forest is also recognised. This proposed infrastructure on State Forest therefore limits FCNSW's ability to fulfil its objectives under the *Forestry Act 2012*.

In recognition of these impacts, FCNSW will require adequate and suitable replacement land in the impacted region to grow replacement forests for a range of purposes, including ongoing timber supply, regional socio-economic value, environmental values and community use.

Response

FCNSW's concerns about the potential long-term impacts on forestry land and its ability to fulfil its objectives under the *Forestry Act 2012* are noted. As noted above, potential impacts and mitigation measures were considered in the EIS for a range of impacts on forestry land, including land use, economic and social-related impacts such as tourism and amenity. Chapter 6 (Assessment of impacts) of the Amendment Report provides further consideration of impacts to Green Hills State Forest due to the Green Hills corridor amendment.

The need to compensate FCNSW for the loss of forestry land was discussed in Chapter 11 (Land use and property) of the EIS. Transgrid is currently negotiating with FCNSW regarding compensation for the loss of forestry land due to the amended project, including identifying suitable areas for replacement forestry land.

5.10.4. General route transmission line and temporary laydown areas

Issue raised

FCNSW understands that the published EIS does not include the proposed route through Green Hills State Forest and has been informed that this would be added as an amendment. FCNSW therefore reserves the right to make a further submission once this amendment is available.

Response

While the Green Hills corridor amendment was not assessed in the EIS, the feasibility of this route for HumeLink was determined prior to exhibition of the EIS. Table 2-1 of the EIS provides a chronological summary of the key steps and outcomes in the development of the project and preferred transmission line option which includes when the Green Hills corridor amendment as proposed by the community was initially considered. Transgrid had consulted with FCNSW throughout the feasibility analysis, Transgrid has and will continue to engage with FCNSW on the realignment and seek inputs to help minimise the impacts on forestry operations as far as is practicable.

The Green Hills corridor amendment is further detailed in the Amendment Report, including a summary of consultation with FCNSW regarding the amendment (refer to Chapter 3 (Description of the amended project) and Chapter 5 (Engagement) of the Amendment Report, respectively).

Issue raised

FCNSW must be directly consulted with and provide approval of the final route for any parts of the HumeLink transmission line or corridor as well as any tower locations or other associated infrastructure intended to be constructed or established in State forest.

Response

Transgrid acknowledges the FCNSW's position on the final route of the project. As noted in the responses above, Transgrid is currently negotiating with FCNSW on a number of issues associated with the amended project. Transgrid will continue to work with FCNSW to achieve suitable outcomes regarding the matters raised.

Issue raised

In reviewing and approving the route through State forest, FCNSW's considerations include:

- avoiding areas of high value, or high yielding plantation or native forest
- minimising the creation of isolated or sterilised areas
- avoiding areas of high or unique and fragile biodiversity as well as habitat of endangered species
- avoiding significant areas of Aboriginal cultural heritage or European heritage value
- minimising the impact to the recreational value of State forests
- avoiding interference with effective forestry operations
- ensuring the maximum access to State forests for forest management including fire suppression
- minimising effects on the areas of native forest that were not impacted by the 2019-20 Black Summer bushfires, which had a substantial and widespread impact in this region.

Response

FCNSW's considerations in reviewing the final route of the project are noted. Transgrid will work with FCNSW to achieve suitable outcomes regarding the matters raised.

As discussed in Chapter 6 (Engagement) of the EIS, Transgrid carried out extensive consultation with a range of government departments and agencies, including FCNSW, to confirm regulatory requirements for the environmental assessment, gather knowledge on key issues and opportunities, and facilitate information sharing during preparation of the EIS. A number of the considerations raised by FCNSW in its submission are consistent with the topics raised during the project development, which were addressed in several of the technical reports prepared for the EIS (refer to Table 6-6 of the EIS).

Chapter 5 (Engagement) of the Amendment Report discusses outcomes of further consultation with FCNSW regarding the amended project and where issues raised have been addressed.

Issue raised

There are third party users of State forest including, for the purposes of the *Forestry Act 2012*, forest permit holders and lessees. Where an interaction with third party users cannot reasonably be avoided, Transgrid will be responsible for managing and/or compensating any loss to, or interference with, third party interests. FCNSW and Transgrid are to discuss and agree on the approach for potential third party interactions on State forest.

Response

Third-party interests within State forests affected by the project would be considered and compensated in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991*. Transgrid notes the FCNSW's position on third-party interests and is currently working with FCNSW to achieve a suitable outcome regarding this matter.

Issue raised

The EIS indicates that Transgrid is proposing to establish three temporary laydown areas within State forests. The same considerations outlined above apply to this infrastructure, and FCNSW must be consulted and approve the siting of these facilities. A licence is required under the *Forestry Act 2012* if the works include the removal of timber or trees.

Response

As stated in the response above, FCNSW's considerations that are taken into account when reviewing the project are noted. Transgrid will work with FCNSW to achieve suitable outcomes regarding the matters raised.

The amended project includes changes to the construction compounds on forestry land, as shown in Table 5-1. Further details on the changes to construction compounds are documented in the Amendment Report, including a summary of consultation with FCNSW regarding these changes (refer to Chapter 3 (Description of the amended project) and Chapter 5 (Engagement) of the Amendment Report, respectively).

Table 5-1 Changes to construction compounds on forestry land due to the amended project

Construction compound	Change	Relevant State Forest
Maragle 500 kV substation compound (C05)	No change from the EIS	Bago State Forest
Amended Honeysuckle Road compound (C07)	The area of the construction compound has increased by 6.72 ha	Red Hill State Forest
Red Hill Road compound (C08)	Removed from the project	Red Hill State Forest
Snubba Road compound (C16)	Removed from the project	Bago State Forest
Ardrossan Headquarters Road compound (C17)	New construction compound located about 7.6 km west of Batlow	Green Hills State Forest
Snubba Road compound (C18)	New construction compound located about 7.7 km south of Batlow	Bago State Forest

5.10.5. Compensation for impact

Issue raised

The proposed construction, operation and maintenance of energy infrastructure within State forest will have a wide variety of impacts on FCNSW's operations and the values that State forests provide to the economy, local communities and society in general. As such, the approach to compensation needs to be holistic to ensure all affected aspects are captured and addressed in the compensation requirement, including community values.

The EIS acknowledges that land within several State forests would be used for energy infrastructure and would no longer be available for use by FCNSW or the public. Any economic and public value loss needs to be addressed as part of any *Forestry Act 2012* licence or easement process.

Response

Impacts on FCNSW's operations and the values that State forests provide to the economy, local communities and society in general have been considered in preparing the EIS and Amendment Report.

The need to compensate FCNSW for the loss of forestry land was discussed in Chapter 11 (Land use and property) of the EIS. Compensation is generally agreed upon in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991*. However, Transgrid is currently negotiating with FCNSW regarding compensation for the loss of forestry land due to the amended project, including identifying suitable areas for replacement forestry land.

Issue raised

It is noted that State forests are mostly Crown land, and FCNSW considers native title to exist until proven otherwise. FCNSW expects that Transgrid will appropriately meet any native title procedural requirements and indemnifies the State against any native title compensation liabilities arising in connection with the HumeLink project.

Response

Searches to date of the National Native Title Register and Register of Native Title Claims, did not identify any Crown land areas within the amended project footprint as being the subject of a claim or determination under the *Native Title Act 1993*. Notwithstanding, where there has been no determination of Native Title, Transgrid will follow relevant procedures under the *Land Acquisition (Just Terms Compensation) Act 1991*

and the *Native Title Act 1993* and having regard to applicable Indigenous Land Use Agreements, as required.

Issue raised

As part of the compensation FCNSW would seek for the project's impact on State forests, Transgrid would be required to replace any land acquired, sterilised under easement or otherwise directly impacted by the HumeLink project with equivalent land on a two for one (2:1) ratio. That is, every hectare of land that is subject to acquisition of easement, will be replaced by two hectares of suitable land that meets FCNSW's land requirements criteria. This consideration would apply to all Forestry FCNSW land and State forest impacted, including for example, roads, hard stand areas and firebreaks as well as timber plantation and other forested land. Land that would become isolated, unviable, or otherwise no longer able to be accessed due to the placement of infrastructure associated with the HumeLink project will also be included in the total area to be assessed for compensation and replacement. Compensation will also need to include recognition of the long-term impact on site productivity of laydown areas due to the compressed gravel/rock impact on soil post rehabilitation.

Response

Transgrid acknowledges the FCNSW's position on compensation for the impact on forestry land. As noted in the response above, compensation is generally agreed in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991*. Transgrid is currently negotiating with FCNSW regarding compensation for the loss of forestry land due to the amended project, including identifying suitable areas for replacement forestry land.

Issue raised

The total area of State forest that will be rendered unusable by the energy infrastructure can only be determined by FCNSW once the final route of the transmission line is agreed. Any subsequent change in route would necessitate a recalculation of the impact and the appropriate compensation.

Response

The process for determining the area of forestry land impacted by the project is noted. Transgrid is currently negotiating with FCNSW regarding compensation for the loss of forestry land due to the amended project, including identifying suitable areas for replacement forestry land.

Issue raised

FCNSW will require Transgrid to source and procure replacement land that meets the following requirements:

- same or greater productive capacity for forest establishment and management
- annual rainfall to be 800 millimetres or greater
- preferably within the same FCNSW management area (ie, in proximity to existing customers and communities whose use and access has been affected)
- with an acceptable fire risk profile.

Response

Transgrid notes the FCNSW's requirements for the replacement of forestry land and is currently negotiating with FCNSW to achieve a suitable outcome regarding this matter.

Issue raised

FCNSW acknowledges that Transgrid has consulted directly with FCNSW on the commercial value of the timber in the proposed project area. Timber plantations take approximately 40 years to mature before final harvest, with the highest value plantation timber products being high quality sawlogs sourced from mature trees. As the timber resource impacted is of varying ages, including young plantations that produce lower grades of timber, the compensation for lost timber value must include not only the value of standing timber, but also compensation for the early harvest of the resource that is not yet mature and for the loss of forest productivity until replacement forests are established.

Response

Compensation for lost timber value would be determined in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991*. Transgrid is currently negotiating with FCNSW regarding compensation for the loss of forestry land due to the amended project, including identifying suitable areas for replacement forestry land.

Issue raised

FCNSW will seek compensation to re-establish softwood plantation where it is required to be prematurely harvested or cleared, and where native forest has been removed. FCNSW will be seeking compensation to re-establish both softwood and hardwood forests on other suitable sites, having regard to the considerations set out above.

Response

Transgrid acknowledges the FCNSW's position on compensation to re-establish softwood and hardwood forests on suitable sites and is currently negotiating with FCNSW to achieve a suitable outcome regarding this matter.

Issue raised

It is anticipated that the HumeLink project will place additional strain on the limited supply of both human and mechanical resources. To ensure adequate resources are in place to service the requests of the project on an ongoing basis, it is suggested that a protocol be established to ensure that there are adequate resources available and funded for both parties to effectively conduct their operations.

Response

Transgrid is committed to ongoing consultation with FCNSW to achieve a suitable outcome regarding this matter and other issues raised in its submission.

Issue raised

FCNSW will also seek compensation for the following:

- administrative and transaction costs incurred, including legal fees
- redevelopment and repair of impacted roads and access points
- removal of any fixed infrastructure
- investment already incurred in site preparation for plantation establishment for land that will no longer be available for planting due to being within the easement footprint
- loss of public value including recreational and cultural values

- commercial impact on FCNSW, including on its ability to meet existing contractual timber supply obligations.

Response

Compensation for the issues raised by FCNSW would be determined in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991*. Transgrid is currently negotiating with FCNSW regarding compensation for the loss of forestry land due to the amended project, including identifying suitable areas for replacement forestry land.

5.10.6. Fire management

Issue raised

Notwithstanding any easement arrangements or infrastructure established, FCNSW or firefighters acting under the command of the RFS Commissioner, must retain all existing access roads and maintain unimpeded access through any area of land it controls or manages for the purposes of forest and fire management.

Response

FCNSW's request for unimpeded access for fire management is noted and is considered a standard operational procedure. The Bush Fire Emergency Management and Evacuation Plan (BFEMEP) required by revised mitigation measure HR5 would include requirements for bushfire response and management during operation.

In a fire-related incident, Transgrid's priority is to ensure the safety of personnel, nearby communities, and responders. Immediate actions are taken to identify potential hazards and make safe the areas, where possible, minimise impacts, and mitigate further escalation.

During a bushfire, Transgrid will:

- work very closely with the fire authorities to provide safe and secure access to our easements for firefighters
- work closely with emergency services both in planning and in real-time bushfire response to minimise bushfire risk
- have a liaison officer embedded in the Rural Fire Service Incident Management Team to provide expert advice in relation to transmission facilities.

Issue raised

Bushfire protection measures need to occur annually as agreed upon by FCNSW and funded by Transgrid. Protection measures would include the ongoing management of hazardous trees on a risk basis and management of potential grass and understorey fuels within the footprint of any easement.

Response

Transgrid acknowledges the FCNSW's position on the annual review of bushfire protection measures and is currently negotiating with FCNSW to achieve a suitable outcome regarding this matter.

Vegetation within the proposed transmission line easement will be managed in accordance with Transgrid's existing vegetation management standards, which are consistent with the clearance requirements principle identified in *AS/NZS7000:2016 Overhead Line Design* (refer to mitigation measure HR2).

Issue raised

Fire containment plans must also be developed along the entire transmission corridor within State forest to ensure there is a clear containment strategy and appropriate firefighting support infrastructure is established and maintained, including permanent marking posts indicating the safe approach distance for firefighting.

Response

FCNSW's request to prepare fire containment plans for forestry land is noted. The BFEMEP required by revised mitigation measure HR5 would include requirements for bushfire response and management during operation. The BFEMEP will also be consistent with relevant Australian standards and development plans and guides.

Issue raised

FCNSW's Forest Practice Codes are to be adhered to and fire suppression protocols are to be established and signed off by FCNSW. These may include, but are not limited to:

- adhering to FCNSW cease work directives during days of elevated fire danger implementing de-energisation procedures during fire emergencies for safe fire suppression
- maintaining availability of appropriately trained Transgrid contractors as well as plant and equipment for inclusion in the fire management plan.

The above requirements will apply both during the construction of the project and the ongoing operation of the infrastructure in perpetuity.

Response

Transgrid acknowledges the FCNSW's position on Forest Practice Codes and the need to establish and sign-off fire suppression protocols and is currently negotiating with FCNSW to achieve a suitable outcome regarding this matter.

As noted in the above responses, a BFEMEP would include requirements for bushfire response and management during operation (refer to revised mitigation measure HR5 in Appendix B (Updated mitigation measures)).

5.10.7. Ecology and biosecurity

Issue raised

Environmental monitoring programs associated with the project are to be designed in collaboration with FCNSW so that they deliver maximum benefit by complementing and integrating with existing monitoring programs in State forests. A range of ongoing environmental plans and monitoring programs are established within State forest in the region including for example, Yellow Bellied-Glider management plans and prescriptions, monitoring of threatened species and predatory and pest species and diseases, biodiversity offset programs, and the Biodiversity Management Plan.

FCNSW would specifically seek to collaborate with Transgrid on surveys for Yellow Bellied-Glider, Squirrel Glider, and the Greater Glider as part of the glider monitoring program.

Response

FCNSW's offer to collaborate on preparing biodiversity monitoring and management plans for the project is noted. Chapter 8 (Biodiversity) and *Technical Report 1 – Biodiversity Development Assessment Report* of the EIS outlines the key programs and plans to be prepared and implemented for the project to avoid, minimise and manage impacts on biodiversity, including threatened glider species. These include the Biodiversity Management Plan (BMP), Connectivity Strategy and Supplementary Hollow and Nest. Where relevant, Transgrid would consult FCNSW during their development and implementation.

Preliminary Connectivity Strategies have been developed by the construction contractors outlining design commitments with regard to the location and nature of proposed mitigation measures to address prescribed impacts associated with habitat connectivity where impaired or severed as a result of the amended project. The Preliminary Connectivity Strategies would be included in the draft BMP to be submitted to NSW DCCEE.

Issue raised

All construction equipment must be washed and sterilised of soil, rock, vegetative material as a biosecurity practice before arriving on State forest.

Response

Biosecurity and hygiene protocols for the construction of the project are detailed in mitigation measures included in Appendix B.1 (Updated biodiversity mitigation measures) which includes a Biosecurity Management Plan. The preparation of a Biosecurity Management Plan would include monitoring requirements and locations, timing and methods for removing soil and plant matter from vehicles and machinery and sourcing clean soil and materials free of contaminants for construction work. The Biosecurity Management Plan would apply to all areas of the project, including forestry land. Transgrid and its construction contractors will consult with FCNSW on biosecurity measures applicable to forestry land.

5.10.8. Transport management

Issue raised

A comprehensive Traffic Management Plan is to be developed and approved by FCNSW that covers the construction phase as well as ongoing operation and maintenance of any energy infrastructure in State forest.

The plan is also to detail arrangements for access to fragile areas during winter as well as any implications of road damage and repair in these areas.

Response

As stated in Chapter 20 (Traffic, transport and access) of the EIS, a Traffic and Transport Management Plan (TTMP) would be implemented for the project, which would identify requirements for minimising traffic impacts. The TTMP would form part of the CEMP and is relevant to the project's construction phase. As part of the development of the TTMP, FCNSW would be consulted regarding the use of forestry tracks, which will include commercial negotiation.

In addition, since the EIS was exhibited, ongoing design and construction methodology development has identified new access tracks or upgrades to existing access tracks to connect construction areas and the transmission line easement to the existing road network. A number of existing forestry tracks have been

nominated for use. Chapter 3 (Description of the amended project) of the Amendment Report provides further detail on the new and upgraded access tracks.

Revised mitigation measure TT4 (refer to Appendix B (Updated mitigation measures)) requires road condition assessments to be carried out for all local roads to be used during construction. The assessments will confirm the current condition of the road surface and will be documented in a road condition report, with a copy provided to the relevant road authority. Road assessment surveys will be undertaken during and following construction to assess the damage to roads accessed by project-related traffic. Damage caused by the project will be rectified or compensated for during or after construction in consultation with the relevant road authority.

Issue raised

All roads must be maintained to a standard that allows for safe public access, especially to forest visitor areas such as the Pilot Hill Arboretum and the Sugar Pine Walk 2.0. Communication signage must be installed on all high use roads or roads used by heavy vehicles and processes established to alert anyone moving through areas where construction is taking place or where infrastructure is installed on an ongoing basis of any hazards.

Response

As stated in the response above, a TTMP would be implemented for the project during construction. The TTMP would include but is not limited to:

- measures to minimise disruption to pedestrians, cyclists and motorists
- management of safe vehicle access/egress from construction compounds and other work sites
- measures to manage oversized and/or overmass (OSOM) vehicle movements during construction
- management of long-distance travel through driver fatigue management measures
- measures to ensure safe access to existing properties during construction or provision of suitable alternatives.

Notwithstanding, Transgrid will continue to work with FCNSW to agree upon the use of FCNSW roads including safe use for workers and the public. These requirements include safe working and communication procedures to be implemented during construction, including visible signage and UHF radio communications. Further details will be provided in the TTMP.

Issue raised

Detailed specifications must also be developed setting out limitations on tare weights on sealed roads and equipment access under the transmission lines.

Response

The TTMP required for the construction of the project would include measures to manage OSOM vehicle movements. In developing the measures, the construction contractors would confirm the haulage route and obtain the approvals that would need to be granted from relevant stakeholders. Minor road upgrades may be required depending on the confirmation of the OSOM haulage route and roads to be used. Any required road upgrade would be designed to ensure the appropriate weight and traffic requirements are met in accordance with revised mitigation measure TT1 (refer to Appendix B (Updated mitigation measures)).

For any equipment access under existing transmission lines, the construction contractors must comply with Transgrid easement access procedures and designs.

5.10.9. Construction impacts and rehabilitation

Issue raised

Transgrid is to develop and present a plan to be agreed by FCNSW, which details the nature and extent of disturbance of State forest land during construction and plans for rehabilitation. The plan must address factors including the permanent or temporary removal of topsoil, rock or mulched vegetated material from State forest. Spoil management and naturally occurring asbestos (NOA) needs to involve a methodology, operational practice and audit procedure agreed with FCNSW. FCNSW has not commenced discussions with Transgrid about disposal of rock or topsoil and expects that these discussions should be initiated as soon as practical.

Response

Transgrid notes the FCNSW's request to understand the nature and extent of disturbance of forestry land during construction and plans for restoration and/or rehabilitation, including disposal of rock or topsoil (as applicable). Transgrid and the construction contractors will continue to consult with FCNSW to achieve a suitable outcome regarding these matters. Any particulars regarding effects on Forestry Land and reparation will form part of the Forestry Construction Permit to be obtained by the construction contractors.

The CEMP and associated sub-plans for the project, including the SWMP and Waste Management Plan, would include measures, procedures and monitoring requirements to manage the issues raised by FCNSW. Revised mitigation measure SC5 also requires the preparation of an Asbestos Management Plan to be prepared in accordance with the NSW Government Code of Practice *How to manage and control asbestos in the workplace* (SafeWork, 2020) (refer to Appendix B (Updated mitigation measures)). The Asbestos Management Plan will consider risks associated with NOA.

In addition, Chapter 4 (Project description – construction) of the EIS outlines the spoil management hierarchy proposed for the project. Ongoing consultation with FCNSW would consider the application of this hierarchy to forestry land as required.

The CEMP and subplans would be provided to FCNSW prior to construction commencing.

Issue raised

Transgrid should be aware that construction materials such as gravel located on State forest are unlikely to be available for use by Transgrid during the construction or ongoing maintenance phases of the project.

Response

FCNSW's position on using construction materials such as gravel on forestry land is noted. The construction contractors and Transgrid continue to discuss potential materials use options directly with FCNSW, particularly in relation to the potential use of Coffee Pot Quarry.

Excess spoil from excavations would be reused onsite wherever possible. Where spoil is deemed inappropriate for reuse, material would be sourced locally. This may include using existing borrow pits proposed as part of the project to facilitate a source of fill material. Chapter 3 (Description of the amended project) of the Amendment Report provides further detail on using existing borrow pits.

Issue raised

Post construction, the rehabilitation of disturbed areas of State forest must be planned and funded by Transgrid. The rehabilitation plan must be agreed with FCNSW and works completed as agreed prior to rehabilitation equipment leaving the site.

Response

As discussed in Chapter 4 (Project description – construction) of the EIS, demobilisation and site rehabilitation would be undertaken progressively throughout the project footprint. Construction areas that do not include permanent infrastructure and are outside of an asset protection zone (APZ) would be rehabilitated as soon as practicable, consistent with the existing surrounding landscape and any operational maintenance requirements. As required, rehabilitation within forestry land would be carried out in consultation with FCNSW.

5.10.10. Maintenance

Issue raised

Transgrid is required to carry out and fund ongoing maintenance of any easement established over State forest. Maintenance obligations will include the timely removal of trees and vegetation that encroach within the safety zone of the transmission infrastructure. This is especially important for operational fire management.

Transgrid must be the company responsible for clearing and maintaining clearance on any easement held to its benefit over State forest.

Response

Transgrid notes the FCNSW's position on the expected maintenance obligations for transmission line easements on forestry land and is currently negotiating with FCNSW to achieve a suitable outcome regarding this matter. The agreed outcome would be subject to the terms of easement that is registered over forestry land.

As stated in Section 5.10.6, vegetation within the proposed transmission line easement will be managed in accordance with Transgrid's existing vegetation management standards, which are consistent with the clearance requirements principle identified in *AS/NZS7000:2016 Overhead Line Design* (refer to mitigation measure HR2 of Appendix B (Updated mitigation measures)). These requirements would assist in managing operational fire risks.

5.10.11. Aircraft operations

Issue raised

Aircraft are used regularly as part of forestry operations, including for forest health assessments, aerial herbicide and fertiliser delivery, and firefighting. Transgrid must complete a detailed assessment of the likely impact energy infrastructure established within State forests will have on such activities. This assessment must be provided to FCNSW for approval and to inform consideration of matters such as precise location of infrastructure and assessment of compensation as set out in the previous sections.

Response

Transgrid acknowledges the FCNSW's position on managing aircraft operations on forestry land and is currently negotiating with FCNSW to achieve a suitable outcome regarding this matter.

Aviation safety along the transmission line route was considered in Chapter 19 (Hazards and risks) of the EIS. The transmission lines and their structures would result in additional obstacles that could result in incidents if aircraft operate in proximity.

These risks would be managed and minimised by including the transmission line structures on aeronautical charts, pilot briefings and the AAAA formal risk management program. This would give pilots the best possible knowledge of the obstacle environment around the intended flight(s). These measures are consistent with current practices associated with low-level flights near large transmission lines. Revised mitigation measure HR6 requires the detailed design of the transmission line structures, including coordinates and elevations, to be provided to relevant stakeholders as early as possible. Mitigation measure HR6 was revised to include FCNSW as a relevant stakeholder as noted in Appendix B (Updated mitigation measures).

5.11. Heritage Council of NSW

Issue raised

The report notes that the proposed project footprint is located 375 metres from the state heritage register (SHR) listed item, Hillas Farm Homestead and Outbuildings (SHR no. 00301) at Hanworth Road, Bannaby, and the project would have negligible impact on the heritage significance of the item. Figure 3-1 on page 24 of the report depicts the location of heritage listed items in relation to the project footprint and heritage study area. However, the SHR listed site is not identified on the map.

Due to the large scale of the project footprint, it is important to confirm the exact location of the SHR site (and its curtilage boundaries) in relation to the project footprint (including associated works) and assess impacts of the proposal on its significant setting and views. It is, therefore, advised that DPE requests the applicant to submit additional information to address the above in more detail. The supporting documents noted above should be revised to include the additional information.

Response

It is noted that although Hillas Farm Homestead and Outbuildings (SHR no. 00301) at Hanworth Road, Bannaby was inadvertently omitted from Figure 3-1 of *Technical Report 3 – Historic Heritage Impact Assessment* of the EIS, it was included in Figure 10-1 of the EIS. Notwithstanding, Figure 3-1 from *Technical Report 3 – Historic Heritage Impact Assessment* of the EIS has been updated and is included as Figure 3-1 in *Technical Report 3 – Historic Heritage Impact Assessment Addendum* of the Amendment Report. Additionally, *Technical Report 3 – Historic Heritage Impact Assessment* of the EIS did include consideration of potential direct and indirect impacts on Hillas Farm Homestead and Outbuildings.

Technical Report 8 – Landscape Character and Visual Impact Assessment of the EIS considered potential visual impacts on Hillas Farm Homestead and Outbuildings. Hillas Farm Homestead and Outbuildings is located in an elevated position and surrounded by mature trees. While the transmission lines would be potentially visible, they would be partly obstructed by intervening vegetation and located at a distance from the dwelling. Overall, there would be increased viewer sensitivity due to the State Heritage Register listing of this dwelling, but a low magnitude of change, which, on balance would result in a moderate-low impact overall.

Assessment of potential direct and indirect impacts to Hillas Farm Homestead and Outbuildings from the amended project is provided in *Technical Report 3 – Historic Heritage Impact Assessment Addendum* of the Amendment Report. The assessment concluded there would be negligible impact on this item.

Issue raised

Advice should also be sought from relevant local councils in relation to local heritage items, and Commonwealth Department of Climate Change, Energy, the Environment and Water (Commonwealth DCCEEW) in relation to national heritage items.

Response

A number of local councils provided submissions on the EIS as detailed in Chapter 6 (Response to local council submissions). No concerns were raised in regard to local heritage items. Local heritage items have been assessed in *Technical Report 3 – Historic Heritage Impact Assessment* of the EIS and *Technical Report 3 – Historic Heritage Impact Assessment Addendum* of the Amendment Report.

There are no national heritage items within the project footprint and potential impacts to the two items, the Australian Alps National Parks and Reserves and the Snowy Mountains Scheme, were determined to be negligible in Chapter 10 (Non-Aboriginal heritage) of the EIS. The amended project has not changed this impact and as noted in *Technical Report 3 – Historic Heritage Impact Assessment Addendum* of the Amendment Report no new national heritage items were identified in the amended study area. With the proposed amendments and refinements described and assessed in the Amendment Report, the assessment of matters of national environmental significance for the project is subject to a *request to a vary a proposal* issued to Commonwealth DCCEEW under the provisions of the EPBC Act and the Commonwealth Environment Protection and Biodiversity Conservation Regulations 2000.

5.12. Heritage NSW

Heritage NSW has been transferred to NSW DCCEEW as part of the restructuring of DPE on 1 January 2024 and has been renamed NSW DCCEEW Environment and Heritage.

Issue raised

Based on the review of the Aboriginal Cultural Heritage Assessment Report (ACHAR), provided in support of the EIS, there is insufficient information provided for NSW DCCEEW Environment and Heritage to advise DPHI on whether the management recommendations are adequate and if the ACHAR substantially complies with the SEARs. In order to establish the nature and extent of the Aboriginal cultural heritage values proposed for impact by this development, further investigations may be required.

Response

Technical Report 2 – Aboriginal Cultural Heritage Assessment Report of the EIS was prepared to support the EIS and was developed to address the SEARs in accordance with:

- *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW, 2010a)
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010b)
- *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (Office of Environment and Heritage, 2011).

The detailed comments provided by NSW DCCEEW Environment and Heritage in its submission on the *Technical Report 2 – Aboriginal Cultural Heritage Assessment Report* of the EIS has been considered in preparing *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* for the amended project. Responses to the detailed advice provided by NSW DCCEEW Environment and Heritage are

outlined in the sections below and have been prepared in consultation with NSW DCCEE Environment and Heritage (refer to Chapter 5 (Engagement) of the Amendment Report).

5.12.1. Aboriginal Cultural Heritage Assessment Report

Issue raised

There are several areas of the ACHAR that should be improved by restructuring the content, namely Sections 6-10. The current structure is inconsistent in its delineation of contextual boundaries, with Local Government Area, Aboriginal languages, and bioregion boundaries used throughout the ACHAR. This makes it difficult to correlate contextual information and predictive modelling with the outcomes of survey and test excavation. A consistent structure, whether based on broader Aboriginal language boundary and/or bioregion with reference to survey units, predictive modelling, and test excavations within these broader units would aid in the readability of the ACHAR and ensure that its conclusions are easily identifiable.

Response

Sections 6 to 10 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report have been restructured and updated to ensure each section is linked and a consistent structure is presented. Specifically, this has included increased referencing to the relevant bioregion throughout Sections 6 and 7 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report and inclusion of the relevant bioregion, LGA and LALC to the site descriptions for each site in Section 8.

Issue raised

Please clarify the number of Aboriginal cultural heritage sites that are located within the project area. The ACHAR notes both 90 and 84 sites as well as six and eight areas of Potential Archaeological Deposit (PAD).

Response

From *Technical Report 2 – Aboriginal Cultural Heritage Assessment Report* of the EIS, there were 90 Aboriginal cultural heritage sites recorded within the project footprint. This included six PADs identified by Navin Officer Heritage Consultants and two PADs on Aboriginal Heritage Information Management System (AHIMS), bringing a total of eight PADs in the project footprint.

In *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report, 129 Aboriginal cultural heritage sites and 10 PADs were identified during further field assessment. Including AHIMS sites, there are 178 Aboriginal cultural heritage sites, including 12 PADs and one modified tree/PAD, in the amended project footprint. Refer to Table 5-2 for comparison of Aboriginal cultural heritage sites between the EIS and amended project.

Table 5-2 Comparison of Aboriginal cultural heritage findings between the EIS and amended project

	EIS project footprint	Amended project footprint
PADs identified in AHIMS	2	3 including one modified tree/PAD ¹
PADs identified by Navin Officer Heritage Consultants	6	10
Sites identified in AHIMS (excluding PADs)	19	36
Aboriginal cultural heritage sites (excluding PADs)	63	129
Total number of Aboriginal cultural heritage sites	90	178

Note:

1. The one modified tree/PAD is located within the transmission line portion of the amended project footprint near the future Maragle 500 kV substation compound.

Issue raised

Please clarify what consultation has been undertaken for the project area located within the Gundungurra Area Agreement ILUA (NI2014/001) with reference to any specific requirements for consultation referenced in that ILUA.

Response

Section 5 of *Technical Report 2 – Aboriginal Cultural Heritage Assessment Report* of the EIS included the record of consultation with Gundungurra Aboriginal Heritage Association Inc. as per the Gundungurra Indigenous Land Use Agreement 2014 (ILUA). Further detail has been included in Sections 3 and 5 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report. However, no response has been received from Gundungurra Aboriginal Heritage Association Inc., and it is noted that the amended project footprint does not directly enter any of the lands associated with the ILUA.

Issue raised

We recommend that additional documentation of the consultation process is requested. The applicant needs to provide evidence that consultation was continuous as there may be a gap of greater than eight months throughout the project. NSW DCCEEW Environment and Heritage requires that consultation with Registered Aboriginal Parties (RAPs) is continuous. Under our policy and guidelines, breaks in consultation of over six months may not constitute continuous consultation.

Response

Extra detail has been added to Section 5 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report, including a new table detailing all of the submissions received by the RAPs and a response to the issues raised. All correspondence from Navin Officer Heritage Consultants and Transgrid is included in a revised consultation log, and documentation of correspondence is included as Attachment 1 to *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report.

As detailed in Section 5 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report, there has not been a gap of greater than six months in the Aboriginal community consultation. Additional consultation was also undertaken for the amended project.

Issue raised

Additional information is required on the comments and concerns provided by the project RAPs and how these were addressed by the applicant. The ACHAR notes that a number of comments were received, namely by Ngunawal Heritage Aboriginal Corporation and Rolly William, however no response to these comments have been provided.

Response

A new table has been added to Section 5 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report, which details the comments received to date and responses sent.

Issue raised

Please ensure that all requests for redaction made by the RAPs are properly managed. Details of one RAP who wished to not have their details made public has been included in Attachment 1.

Response

A redacted version of *Technical Report 2 – Aboriginal Cultural Heritage Assessment Report* of the EIS was prepared for the public exhibition of the EIS that removed all contact information for the RAPs. An unredacted version was provided to NSW DCCEEW Environment and Heritage and DPHI. This will also be the case for *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report.

Issue raised

Further explanation is required on how the project may directly and indirectly impact the two ceremonial sites and the Mudjarn Nature Reserve that are within the vicinity of the project area as well as the potential impacts for Derringullen Creek Women's Site and other culturally sensitive areas.

Response

Information has been included in Section 10 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report to detail potential impacts on the two ceremonial sites Mudjarn Nature Reserve, the Derringullen Creek Women's Site and other culturally sensitive areas.

The amended project does not traverse Mudjarn Nature Reserve. The reserve is located about 300 metres from the amended project footprint and would not be directly impacted by the amended project. The indirect visual impact to the significance of this site is assessed to be negligible due to the distance from the amended project. Similarly, the two ceremonial sites are located approximately 500 to 800 metres from the amended project footprint and the indirect visual impact to the significance of these sites is assessed to be negligible.

As discussed in Chapter 3 (Description of the amendments) of the Amendment Report, the transmission line corridor at Bowning was narrowed to avoid traversing the Derringullen Creek Women's Site. However, the amended project footprint includes an existing access track that traverses the site. This track would be used to provide access to a limited number of transmission line structures (two to three) along the transmission line corridor. Minor upgrades of the access track may be required to allow for heavy vehicle access.

Whilst the amended project footprint provides the potential for the construction of a new two-kilometre access track from the transmission line corridor at this location connecting to Black Range Road to the north, this new access track would traverse the property of a new landowner who is not otherwise impacted by the project. Therefore, it may not be feasible to construct this new access track. Noting also other topographic, engineering and environmental constraints (new biodiversity impacts, creek crossings) within the area, other feasible alternatives may not be possible. Notwithstanding, consideration will be given to avoiding the Derringullen Creek Women's site during further detailed design and construction planning in accordance with mitigation measure AH4 (refer to Appendix B (Updated mitigation measures)). Given the other constraints at this location, avoiding impacts on the Derringullen Creek Women's Site may not be possible.

Where impacts to the site cannot be avoided, further consultation with the relevant RAP will be undertaken to seek guidance around minimising and managing the extent of impacts in accordance with new mitigation measure AH15. In addition, mitigation measures AH10 and AH11 (which include briefing workers on heritage sites adjacent to work areas and cultural awareness training) would be implemented to ensure workers in the area are aware of this culturally sensitive site and the relevant protocols that need to be followed to minimise inadvertent impacts to the site.

Issue raised

Please clarify whether Derringullen Creek Women's Site has been registered with the Aboriginal Heritage Information Management System (AHIMS). Please note that the site may be registered with restricted access to ensure that the area can be protected by the necessary legislation while providing privacy to the community.

Response

Noted. The Derringullen Creek Women's Site has been registered on AHIMS and is site 51-4-0495.

5.12.2. Archaeological sensitivity model

Issue raised

NSW DCCEEW Environment and Heritage commends the extent of the archaeological sensitivity modelling, its continued updating, and the validity testing undertaken. However, greater detail is required on the construction of the modelling, the data included, how conclusions were reached, and how the survey and test excavations were incorporated. The ACHAR would benefit from a detailed methodology of the models' underpinnings, construction, and validity testing. The ACHAR currently lacks explicit linkage between the survey and testing results and their influence on the refinement of the sensitivity modelling. As the modelling will inform future investigations for the project, it is important to ensure that the modelling accurately characterises the landscape and potential for Aboriginal cultural heritage sites across the project area.

Response

Additional detail has been added to Sections 4 and 8 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report, including how different data inputs have been used in the development of the sensitivity model. A summary of the detail included is provided below.

Slope data for each known and discovered archaeological site was compiled, and slope ranges were categorised as good, moderate, and poor based on the presence or absence of archaeological sites. Of the 158 surface site locations within the project footprint (being the 119 sites identified in the 2023 amended

project survey, excluding PADs and sites identified by RAPs and the previously recorded AHMS sites (39)), 150 were located on a slope of less than 11 degrees, 106 sites were located on a slope of less than six degrees.

AHMS site data that records the results of previous surveys was obtained. For the purposes of the revised Aboriginal cultural heritage assessment report, all site types were valued equally in the model, and a buffer of 100 metres was placed around each site to allow for any errors in original recordings and indicate an area of higher archaeological potential.

Initially, hydrology data was classified using the Classical Stream Order Model, but this data necessitated the inclusion of minor streams in order to model the archaeological sensitivity accurately. New hydrology data was obtained based on the Strahler stream order system classification. Using this system improved the classification of streams higher in the watershed and allowed for better differentiation between consequential and inconsequential streams. Strahler stream order 2 and higher streams were used. Stream order 1 streams were eliminated as they are all small inconsequential streams high in the watershed, such as drainage lines leading to farm dams. The model testing has shown that of the 184 surface sites (including sites within the amended project footprint and adjacent project area), 128 are within 350 metres of stream order 2 or higher streams, and 145 are within 500 metres.

Two sensitivity models have been compiled, one for the prediction of subsurface archaeological sensitivity and one for the prediction of survey artefact sites.

The landscape parameters for the final surface site model were refined through numerous model iterations using continuously updated archaeological data. To determine the most efficient landscape parameters, separate “blind” models that did not use proximity to archaeological sites as a model criterion were run. This ensures that the model can be as accurate as possible in areas with extremely poor visibility and or no previous archaeological investigation has occurred.

Efficiency is measured as the percentage of sites identified in a level of sensitivity divided by the percentage of land area for that level of sensitivity. The final model reincorporates proximity to existing archaeological sites. This allows for recorded sites to identify increased sensitivity in areas where poor visibility across the project area hampered surface investigation. Additionally, areas of disturbance were incorporated into the model using available data, including roads, railway lines, dams, waterways, and farm dams.

The archaeological surface sensitivity parameters are as follows:

- High sensitivity:
 - areas of good slope (0-6 degrees) within 350 metres of stream order 2 or higher streams
 - areas of good slope within 100 metres of an archaeological site.
- Moderate sensitivity:
 - areas of moderate slope (6.01-11 degrees) within 350 metres of stream order 2 or higher streams
 - areas of good slope (0-6 degrees) between 350 and 500 metres of stream order 2 or higher streams
 - areas of moderate slope within 100 metres of an archaeological site.
- Low sensitivity:
 - all other areas.

When post-excavation subsurface data was reviewed, it was determined that a separate model with different landscape parameters should be made specifically to predict subsurface archaeological sensitivity. The final model for predicting surface artefacts scatters was compared with test pits that contained artefacts. Of the 39 test pits containing artefacts, 27 were in areas of high sensitivity, nine in moderate and three in low.

When the slope and distance to streams of the test pits were investigated, it was discovered that no test pit containing artefacts was found above 8.7 degrees and that the location of test pits containing artefacts was more weighted towards proximity to higher order streams, such as 3 and 4 or above. Therefore, the slope parameters were refined to “good” slope being 0 to 5 degrees, “moderate” slope being 5.0 to 8.7 degrees and “poor” slope being above 8.7 degrees.

The subsurface archaeological sensitivity model parameters are as follows:

- High sensitivity:
 - areas of “good” slope within 200 metres of stream order 3 or higher streams
 - areas of “good” slope within 400 metres of an order 4 stream or higher.
- Moderate sensitivity:
 - areas of “good” slope within 650 metres of stream order 3 or higher streams
 - areas of “moderate” slope within 200 metres of stream order 3 or higher streams
 - areas of “good” slope within 450 metres of stream order 4 or higher streams.
- Low sensitivity:
 - all other areas.

The final surface model and the model for predicting subsurface archaeological sensitivity both achieve the model aims of identifying the locations of the most archaeological sites in the smallest footprint for high and moderately sensitive areas while placing the fewest archaeological sites in areas of low sensitivity. The final subsurface sensitivity model is more efficient than the surface model due to narrower landscape criteria weighted towards larger streams and gentler slopes. The surface model requires broader landscape criteria because Aboriginal activity can result in ephemeral surface scatters of material from low-density activity and occupation. These sites can be found in a range of landscapes, and not all of those landscapes have the potential for archaeological deposits to accumulate. Archaeological deposits typically accumulate in areas that Aboriginal people repeatedly occupy. These areas depend more on perennial water sources and level to gentler slopes.

The model has been discussed further following the test excavation program and field survey results, and a comparison between archaeological sensitivity and PADs is provided in Section 8 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report.

Issue raised

The ACHAR notes that 85 per cent of Aboriginal Cultural Heritage sites fit with the expectations of the archaeological sensitivity modelling, however there is limited discussion on the intricacies of the sites within the areas of high and moderate sensitivity and the 15 per cent of sites that do not fit the modelling impact the model.

Response

Refer to the above information regarding the models and the methodology used to formulate them. The surface site prediction model identifies sites within the areas of high, moderate, low and disturbed sensitivity, as detailed in Table 4-2 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report (refer to Table 5-3).

Table 5-3 Surface site predictions

Sensitivity	Surface sites	Percentage
High	96	60.8
Moderate	40	25.3
Low	11	7.0
Disturbed	11	7.0
Total	158	100

As discussed in Section 4 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report, the aims of the model are to use landscape criteria to identify areas of high and moderate sensitivity that contain the highest number of archaeological sites within the smallest footprint while producing areas of low sensitivity that contain the lowest number of archaeological sites with the largest footprint. The model cannot predict the number of sites in an area but can be used to predict that there will be a greater number of sites within the area of high sensitivity compared to the moderate and low. This is because visibility and disturbance have an influence on site identification, which cannot be accurately predicted by the model and is likely to change over time.

Issue raised

The mapping provided in Attachment 5.1 and 5.2 should be updated to include greater contextual information, including:

- satellite imagery, landform mapping, and/or contours
- survey unit boundaries
- survey track logs
- sensitivity mapping should be translucent so that underlying mapping is visible to provide a greater representation of the landscape.

Response

Mapping in *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report has been updated to add the extra detail requested by NSW DCCEEW Environment and Heritage.

Track logs have not been provided within *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report as this detail would be unreadable and not useful for the reader in an assessment of this scale. However, the updated mapping indicates which sections have been surveyed or not surveyed. Notwithstanding, the relevant track log spatial data can be provided to NSW DCCEEW Environment and Heritage for information.

Issue raised

Please provide greater explanation in Section 8.4 of the ACHAR on the impacts slope angle and landforms had on the locations of sites and the influence it had on the archaeological sensitivity modelling.

Response

As detailed above, further details on the models have been added to the discussion of the models.

Slope data for each known and discovered archaeological site was compiled, and slope ranges were categorised as good, moderate, and poor based on the presence or absence of archaeological sites. Of the 158 surface site locations within the amended project footprint (being the 119 sites identified in the current survey, excluding PADs and sites identified by RAPs and the previously recorded AHMS sites (39)), 150 were located on a slope of less than 11 degrees, 106 sites were located on a slope of less than six degrees.

Issue raised

Further discussion is required on the wide scale applicability of the archaeological sensitivity modelling and if it can be extrapolated across the uninvestigated areas to estimate the number of sites that they may contain as well as those that may be present in the untested moderate and high sensitivity areas.

Response

Details have been added to Section 8 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report on the applicability of assessing unsurveyed areas.

As the model has been tested both by field survey and test excavation, the use of the model to predict the archaeological sensitivity of the areas unsurveyed provides an indication of the likelihood of there being unrecorded Aboriginal objects within those areas. As discussed in Section 4 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report, the aims of the model are to use landscape criteria to identify areas of high and moderate sensitivity that contain the highest number of archaeological sites within the smallest footprint while producing areas low sensitivity that contain the lowest number of archaeological sites with the largest footprint. The model cannot predict the number of sites in an area but can be used to predict that there will be a greater number of sites within the area of high sensitivity compared to the moderate and low. This is because visibility and disturbance have an influence on site identification which cannot be accurately predicted by the model and is likely to change over time.

5.12.3. Areas of potential archaeological deposit and archaeological investigation

Issue raised

As per Requirement 5 of the Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (2010), please provide detailed mapping of the surveyed areas and all survey track logs to enable NSW DCCEEW Environment and Heritage to assess the efficacy of the survey coverage. The ACHAR notes that ~70% of the project area has been subject to survey - please clarify whether ~70% of the project area was subject to pedestrian survey or whether ~70% of the project area was sampled. Further, the ACHAR notes that the survey focused on areas of high to moderate sensitivity, and while areas of low sensitivity may have been subject to survey to test the validity of the predictive model, it is unclear from the mapping and survey unit descriptions whether a sufficient sample was assessed.

Response

Following the public exhibition of the EIS and further field assessment, this calculation has changed to 80.5 per cent, which is for pedestrian survey. *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report has been amended to not refer to sampling moderate and high areas. Instead, it now refers to all areas that were accessible as being pedestrian surveyed.

Due to the scale of the project footprint, track logs have not been provided, as this data would not be visible on any mapping. The relevant track log spatial data can be provided to NSW DCCEE Environment and Heritage for information, if required. The date in the tables in Section 9 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report provides the survey coverage data.

Issue raised

The landforms described in Table 8-3 may not accurately capture the variability of the landforms within each survey unit, including angle of slope and other associated landform features. Please provide greater explication on the landform designation and update mapping to provide greater clarity on the topography of the survey units.

Response

Table 8-3 (now Table 8-4) of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report has been updated, and a more detailed description has been added to the landform description for each survey area. The slope angle has not been added as this detail varies across landforms and survey units, however moderate gentle and steep slope has been identified.

Issue raised

Further information is required on the localities selected as PADs and how the additional testing areas (five in each LGA) were selected. It is unclear in the ACHAR how each of these areas relate to the landform mapping, predictive model, and sensitivity modelling.

Response

Further detail on the test locations has been added to Section 4 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report, including a table that outlines the sensitivity level, landform, bioregion LGA and LALC for each area.

Issue raised

Across the project area there were eight PADs identified, three of which were tested for this project (two by another project). For a large project area like HumeLink, it would reasonably be expected for there to be a greater number of PADs present. Following the results of the PAD testing as well as 11 additional testing areas that contained artefacts, further discussion is required on whether there are likely more PADs across the project area.

Additionally, further explication is required on whether the unsurveyed and untested areas of high and moderate sensitivity should be considered PADs or whether there are other metrics that may further influence the identification of PADs in these areas.

Response

Section 8.7.1 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report details archaeological sensitivity around PADs as well as the purpose and application of the archaeological sensitivity model.

A total of eight pads were previously identified within the EIS project footprint. This included two PADs identified on the AHIMS database and six PADs that were identified by Navin Officer Heritage Consultants during fieldwork. A total of 12 PADs and one modified tree with PAD were identified within the amended project footprint. This included two PADs and one modified tree/PAD identified on the AHIMS database and 10 PADs identified during field survey. These are presented in Table 5-2 in Section 5.12.1.

Due to ground visibility and property access constraints, an archaeological sensitivity model has been developed to predict potential areas of cultural and archaeological sites across the amended project footprint.

A new subsection has been added to Section 8 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report detailing the connection between archaeological sensitivity and PADs and includes the information below.

Following test excavation, the subsurface archaeological data was incorporated into the surface model and the relevant landscape criteria, such as slope and distance to water for test pits containing artefacts, were investigated. The final surface model captured 27 of the test pits in areas of high sensitivity, nine in moderate sensitivity, and three in low sensitivity. The landscape criteria of the test pits containing artefacts were more concentrated towards higher order streams and gentler slopes than the surface artefact data. This led to a separate model with more specific landscape criteria to reflect these differences in position within the landscape. The final subsurface model captured 22 pits in areas of high sensitivity, 17 in moderate sensitivity, and nil in low sensitivity. The final surface model identifies subsurface archaeological sites with much greater efficiency than the broader surface model. The subsurface model sensitivity categories can be defined as:

- Low sensitivity:
 - areas that are low sensitivity are generally categorised as high gradient, difficult to access landforms that are distant to the closest perennial water source, they do not meet any of the criteria utilised for moderate and high sensitivity areas.

There is a low chance of finding archaeological material in this zone.

- Moderate sensitivity:
 - areas of “good” slope within 650 metres of stream order 3 or higher streams
 - areas of “moderate” slope within 200 metres of stream order 3 or higher streams
 - areas of “good” slope within 450 metres of stream order 4 or higher streams.

There is a moderate chance of finding archaeological material in this zone.

- High sensitivity:
 - areas of “good” slope within 200 metres of stream order 3 or higher streams
 - areas of “good” slope within 400 metres of stream order 4 or higher streams.

There is a high chance of finding archaeological material in this zone.

Issue raised

Please ensure that all site boundaries have been updated following the test excavations and that the site boundaries of all artefact scatters and tested areas are clearly mapped throughout the ACHAR, including Attachments 3 and 5.

Response

All site boundaries have been updated and will be added to mapping as part of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report.

5.12.4. Management and mitigation measures

Issue raised

Proposed mitigation measure AH2 denotes that harm will be avoided to sites of moderate or above Aboriginal heritage significance as far as practical. Unfortunately, this does not provide a guarantee that the project will avoid any Aboriginal cultural heritage sites, especially as no sites were deemed to be of high scientific significance. Further, it is unclear in AH2 whether avoidance will be based on scientific or cultural significance. Additional information is required on the measures that will be implemented by the applicant to ensure that as much as possible the project avoids impacts to Aboriginal cultural heritage and adequately conserves Aboriginal cultural heritage values present within and adjacent to the project boundary.

Response

Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report of the Amendment Report includes four sites of high scientific significance, all of which are artefact scatters of more than 30 artefacts associated with a PAD. Further detail is provided in Section 9.3.4 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report. In addition, one culturally sensitive site, Derringullen Creek Women’s Site, is located within the amended project footprint. RAPs also identified nine unmodified trees of cultural importance during field surveys. Section 9.5.1 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report provides further details on this culturally sensitive site and culturally important trees.

A new subsection has been added to Section 12 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report to detail the process for finalising the project design and avoiding Aboriginal cultural heritage sites.

During detailed design, the locations of recorded Aboriginal sites, PADs and areas of moderate and high archaeological sensitivity would be used to inform the final location of transmission line structures, construction compounds and accommodation facilities, with an aim to:

- protect, conserve and/or manage the heritage significance of Aboriginal objects and places to ensure the proposal does not diminish the cultural understanding of Aboriginal people in NSW
- avoid or minimise impacts on areas of archaeological potential and scientific significance, where feasible and reasonable. Where this is not possible areas of moderate or high archaeological potential and significance are prioritised for avoidance or impact minimisation.

Aspects of the project that may be subject to further refinement include:

- the final transmission line structure locations
- location of new or upgraded access tracks

- final locations and layouts of the construction compounds and accommodation facilities
- construction methods and staging.

Refinements to optimise the design outcomes and construction method would be carried out to further avoid or minimise environmental impacts. This includes approaches to avoid or minimise native vegetation clearing and avoid areas of moderate to high Aboriginal archaeological sensitivity.

Some refinements might, however, require changes that could disturb locations outside surveyed or assessed areas. In such circumstances, additional heritage survey would occur as required before confirming the change. These circumstances would include:

- Where impacts cannot be avoided by simple refinements to newly identified Aboriginal heritage sites of very high significance such as:
 - burial sites
 - sites of such significance that the narrative and/or understanding of Aboriginal heritage occupation in the region would be substantially changed or enhanced based on its identification and/or potential for future research.
- Where an additional access track or other construction ancillary facility (eg, brake and winch site) is identified as required, which do not substantially adversely impact Aboriginal heritage in addition to those presented in *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report and the landholder is supportive of the required use.

The final design would be reviewed for consistency with the assessment contained in *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report, including the proposed mitigation measures and any conditions of approval. If design refinements are not consistent with the environmental assessment, and any approval from the Minister for Planning and Public Spaces, approval would be sought from the Minister for any such modifications in accordance with the requirements of Division 5.2 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Where known Aboriginal sites are located close to construction or maintenance activities for the project, mitigation measure AH10 will be implemented to protect the sites from accidental impacts, eg clear mapping of sites on construction plans and use of high visibility fencing to mark exclusion zones.

Where direct impacts to sites cannot be avoided during design refinement, the identified mitigation measures would be implemented to minimise the potential impacts on Aboriginal heritage, such as surface salvage of artefacts or a program of salvage excavations in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW, 2010a).

The management of culturally sensitive sites, such as Derringullen Creek Women's Site, will be in accordance with mitigation measures AH4, AH10 and AH11 and new mitigation measure AH15 (for Derringullen Creek Women's Site) (refer to Appendix B (Updated mitigation measures)).

Issue raised

Proposed mitigation measure AH3 should be updated to ensure that the additional investigations are conducted prior to project approval, or, following approval conducted under an Aboriginal Cultural Heritage Management Plan (ACHMP), which clearly details the procedures if, and when, Aboriginal cultural heritage is identified and the measures to be put into place for avoidance, conservation, and/or salvage.

Response

Transgrid acknowledges the recommendation of Heritage NSW. Revised mitigation measure AH3, as detailed in Appendix B (Updated mitigation measures), notes that additional assessment will occur in accordance with the *Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW* (DECCW, 2010a). Where Aboriginal objects, scarred trees or areas of PADs are located in unassessed areas and would be directly impacted, addendum report/s to *Technical Report 2 – Aboriginal Cultural Heritage Assessment Report* will be prepared. The current mitigation measure and process detailed are sufficient to manage the avoidance, conservation or salvage of Aboriginal cultural heritage.

Issue raised

Mitigation measure AH8 should ensure that prior to any impacts to modified or scarred trees that consultation is undertaken with the RAPs and not just reported to them.

Response

Mitigation measure AH8 has been revised to include consultation with the RAPs on salvaging the tree trunk prior to any impacts to modified or scarred trees.

Issue raised

Please clarify how the levels of previous disturbance from past ground-disturbing activities, described in the sensitivity model and AH6, have been determined.

Response

Various data has been used, including road locations and farm dam locations, to determine disturbance. However this may not accurately reflect actual levels of disturbance. As such, mitigation measure AH5 (refer to Appendix B (Updated mitigation measures)) has been revised to include the recommendation to undertake desktop and field assessment to determine disturbance prior to undertaking further archaeological excavation.

Issue raised

Please provide additional explication on why no Aboriginal cultural heritage sites have been deemed to be of high significance, noting that the modified trees are identified as a rarer site type for the region and the project area contains a potential women's ceremonial site.

Response

Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report of the Amendment Report includes four sites of high significance, all of which are artefact scatters of more than 30 artefacts associated with a PAD. These sites have the potential to provide a large enough sample to enable analyses of assemblage compositions that could be used to derive statements on the technological systems being employed by Aboriginal groups living in this region.

Modified trees have been identified as having moderate scientific significance. Moderate (local) scientific significance has been attributed to all surface sites that are associated with areas of moderate to high or high potential significance for subsurface archaeological deposits (refer to Table 9-4 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report) and rarer site types such as modified trees and charcoal occurrences. Modified trees are deemed rarer site types when compared to artefacts or artefact scatters as they occur less, however modified trees are not able to

provide more information from an archaeological perspective. A large artefact scatter with a PAD would be of high archaeological significance as it is able to provide more information on the people or how they lived archaeologically. Any subsurface deposits at these sites are predicted to contain a higher number of artefacts compared to the other sites in the survey area.

The Derringullen Creek Women's Site has been identified as having cultural significance. *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* defines cultural significance as 'aesthetic, historic, scientific, social or spiritual value for past, present or future generations' (Australia ICOMOS Burra Charter, 2013). The *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* identify that 'Aboriginal people are the primary determinants of the cultural significance of their heritage' (DECCW, 2010b:iii). The identification of the women's site as having cultural significance is the result of the ongoing consultation with the RAPs that has occurred as part of the assessment undertaken for the *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report.

5.12.5. Cultural Values Assessment

Issue raised

Please clarify why there is a discrepancy in the number of Aboriginal stakeholders contacted between the ACHAR and Cultural Values Assessment (CVA).

Response

Consultation with Aboriginal stakeholders for the *Technical Report 2 – Aboriginal Cultural Heritage Assessment Report* of the EIS was undertaken in accordance with the requirements specified in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010b). This included registering Aboriginal parties who have an interest in the project and engaging with the same parties throughout the ACHAR process.

RAPs from the *Technical Report 2 – Aboriginal Cultural Heritage Assessment Report* of the EIS were invited to participate in the CVA process, however not all participated. The consultation approach for the CVA was to engage with Aboriginal stakeholders with cultural obligations and knowledge of Country. The CVA also included some community members with local knowledge of the project footprint, who were not identified as RAPs in the *Technical Report 2 – Aboriginal Cultural Heritage Assessment Report* of the EIS or through the RAP registration process. This resulted in a discrepancy between the number of identified stakeholders in the *Technical Report 2 – Aboriginal Cultural Heritage Assessment Report* of the EIS and CVA.

Issue raised

Further information is required on how the project may impact the number of culturally sensitive areas identified in the CVA and how Transgrid will limit the project's impact to Aboriginal cultural values across the region.

Response

The CVA report identified a number of potential significant areas, resource areas and movement corridors in and around the project footprint. While the project footprint intersects some of these areas, this does not specifically mean that there would be project infrastructure impacting significant sites. Where potential impacts to specific sites exists, such as the Derringullen Creek Women's Site, the impacts have been assessed in *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the

Amendment Report, with mitigation measures presented. Furthermore, the indicative areas of significance as raised by Aboriginal stakeholders was captured on the project's constraints mapping spatial database, for the construction contractors to consider in their detailed design and construction planning.

Issue raised

Please provide additional information on whether Transgrid will follow the recommendations of the CVA and how these recommendations will be integrated into the project design.

Response

Transgrid's Yura Ngura Indigenous advisory team has developed an action plan based on the recommendations in the CVA report to identify, short-, medium- and long-term initiatives for implementation. One of the key actions is around further and ongoing engagement with Aboriginal stakeholders to build project knowledge, to allow for the early identification of issues and concerns and to work collaboratively with Transgrid to resolve these. Transgrid has also facilitated introductions to the construction contractors to ensure their active involvement during the delivery stage of the project. Noting the CVA is not a public document, additional information on the status of the CVA recommendations and Transgrid's actions has been provided to Heritage NSW separately.

5.12.6. Aboriginal Cultural Heritage Management Plan

Issue raised

NSW DCCEEW Environment and Heritage recommends that an Aboriginal Cultural Heritage Management Plan (ACHMP) be developed and implemented for the project. Heritage NSW recommends the ACHMP should be included in the Conditions of Approval and that an ACHMP be created and approved by DPPI prior to any development activities occurring within the project area. Recommended conditions for an ACHMP have been included in Attachment B.

Response

The recommended condition of the approval for an ACHMP is noted. DPPI will consider conditions of approval during the preparation of the assessment report for the amended project. In considering the need for conditions of approval, DPPI may seek advice from government agencies that administer or regulate the impacts of State significant projects.

5.13. Mining, Exploration and Geoscience NSW

Issue raised

Mining, Exploration and Geoscience NSW (MEG) recommends continued effort to engage with mineral title holders throughout the planning and construction phases of the project, particularly in relation to the timing, location and nature of planned exploration activities.

Response

Transgrid notes MEG's recommendation and will continue to engage with all mineral licence holders throughout the planning and construction phases of the project. To date, engagement has included distributing letters to all mineral licence holders advising of the EIS public exhibition and inviting comments. In addition, another letter was provided to mineral licence holders in December 2023, including any new licence holders potentially affected by the amended project, to advise of both the Submissions Report and Amendment Report.

Issue raised

MEG can assist with alternate contact details for the identified companies if required.

Response

Transgrid contacted MEG requesting confirmation of contact details and identification of any new mineral licence holders potentially affected by the amended project. All mineral licence holders potentially affected by the amended project were informed of the amended project in December 2023.

Issue raised

MEG also recommends periodically using Minview to confirm current mining and/or exploration titles as these are subject to change over time (including approvals of mineral title applications).

Response

Transgrid notes MEG's recommendation and will undertake updated searches of Minview periodically, documenting any changes since the EIS public exhibition. An updated review of mining licences intersected by the amended project footprint was undertaken in November 2023. As with the EIS project footprint, the amended project footprint does not intersect mining leases.

5.14. NSW Environment Protection Authority

Issue raised

Based on the information provided, the proposal does not appear to require an environment protection licence under the *Protection of the Environment Operations Act 1997*. However, as aspects of the project become more refined as part of the detailed design and construction process, the EPA may become the appropriate regulatory authority for the proposed activity and an environment protection licence may be required under the *Protection of the Environment Operations Act 1997*. The EPA recommends that the proponent continually reviews the proposal to determine if there is a change to the requirement for an environment protection licence.

Response

Transgrid notes EPA's recommendation and has considered the amended project's requirements for an environment protection licence in Appendix C (Updated statutory compliance table) of the Amendment Report. If that position changes, the need for an environmental protection licence will be confirmed during further detailed design and construction planning.

5.15. NSW Rural Fire Service

Issue raised

Planning for Bush Fire Protection (PBP) 2019 recommends electrical transmission lines are located underground to limit the possibility of ignition of surrounding bushland and to enhance protection of critical infrastructure in the event of bush fires.

Response

Transgrid notes that PBP 2019 focuses on the provision of standards for development and occupied premises on fire prone land, specifically residential and rural subdivisions, rather than high voltage transmission line infrastructure and predominately includes references to electrical distribution lines.

Transgrid takes the risk of bushfires very seriously, and the safety of workers, landowners and communities is their first priority. Transgrid has safely operated thousands of kilometres of high-voltage overhead transmission lines in NSW and the ACT for decades. Transgrid uses best-practice asset management and network safety management systems to reduce bushfire risk and potential impacts on local communities and the surrounding environment. About half of Transgrid's direct maintenance expenditure each year is dedicated to mitigating bushfire risk.

There is a difference between distribution lines, which are the poles and wires commonly found in suburbs, and the transmission lines designed to transport energy from the generator to distribution centres. Analysis of the major bushfires in Australia caused by electricity infrastructure shows that the source was distribution powerlines or equipment typically below 66 kV, rather than transmission equipment in voltage ranges of 110 kV and above⁴.

While overhead transmission infrastructure does carry a risk of fire ignition and bushfire risk, these risks decrease with larger distances between conductors and the ground. For all major projects, Transgrid's planning, design, construction and operation teams take bushfire risk into consideration at every stage.

Transgrid has a wide range of measures to address and further reduce the risk and likelihood of bushfires, including:

- Route selection:
 - Route selection follows a holistic approach where a number of factors have to be considered. This includes consideration of technical risks to the transmission network and the potential transmission line infrastructure, including from bushfires. While Transgrid aims to minimise the length of transmission lines through heavily timbered areas such as national parks and State forests, where feasible, this has been balanced with potential impacts to environment and community.
- Planning:
 - As part of the EIS, a bushfire risk assessment is undertaken if this is required by the SEARs. Bushfires can have serious consequences for communities and the natural environment. Mitigation measures have been identified for the detailed design, construction and operation stages of the project.
- Design:
 - If a failure or fault occurs on the transmission network, the protection systems are designed to detect issues/faults and switch off the power in a very short period (within milliseconds) to prevent further damage or dangers to the asset and public safety.
 - New transmission lines are built with a grounded shield wire along the top of the structure, above the conductors, to protect the line from lightning and safely dissipate any lightning strike energy to ground through an earthing system at each transmission line structure.

⁴ This statement was taken from Transgrid's submission to the 1st Parliamentary inquiry: 0102 Transgrid.pdf (nsw.gov.au) (Page 19) (2023a). This is also referenced as part of the report following the inquiry (August 2023) - Report No. 51 - Standing Committee on State Development - Undergrounding.pdf (nsw.gov.au) (Page 44 and 45 - items 2.111 and 2.112).

- Hazard tree zones would be established to prevent trees of sufficient height falling and striking overhead conductors or the transmission line structures or come close enough to cause electrical flashover. The trees with potential to fall towards the line based on the trees at maximum operating line conditions require removal.
- An easement clearing zone (ECZ) would be established for any vegetation along the transmission line which may intrude on the Vegetation Clearance Requirements (VCR) at maximum line operating conditions (maximum conductor sag and sway) now or at any time in the future. This would include clearing and ongoing management of the vegetation.

Issue raised

The measures proposed to 'manage the impacts' of the proposal, as outlined in Section 9 of *Technical Report 13 – Bushfire Risk Assessment* of the EIS should be adopted, unless varied by the specific advice contained in the NSW Rural Fire Service (NSW RFS) submission.

Response

NSW RFS's recommendation is noted. Consideration of the amended project and associated bushfire risks has been addressed in *Technical Report 13 – Bushfire Risk Assessment Addendum* of the Amendment Report. The mitigation measures included in *Technical Report 13 – Bushfire Risk Assessment Addendum* of the Amendment Report are consistent with those proposed for *Technical Report 13 – Bushfire Risk Assessment* of the EIS. Refer to Appendix B (Updated mitigation measures) for a list of mitigation measures applicable to managing bushfire risks.

Issue raised

Prior to operation of each compound within a 'bushfire survey area', a Fire Management Plan (FMP) shall be prepared by a suitably qualified bush fire consultant for each facility and provided to the relevant NSW RFS District Office. As a minimum, the FMP shall include:

- 24-hour emergency contact details including alternative telephone contact
- site infrastructure plan
- firefighting water supply plan
- site access and internal road and infrastructure layout
- location of hazards (physical, chemical, and electrical) that will impact on the firefighting operations and procedures to manage identified hazards during the firefighting operations
- mitigation measures including water supply, APZs, firefighting access and defendable space around the external perimeter of the site
- mitigation measures designed to prevent both a fire occurring within the site and prevent a fire from escaping from the site and developing into a bush/grass fire risk to the surrounding area.

Response

NSW RFS's recommendation to prepare an FMP is noted. All aspects of the recommended Fire Management Plan are already contemplated by the construction contractors' overarching Bush Fire Emergency Management and Evacuation Plan (BFEMEP) required by revised mitigation measure HR5 (refer to Appendix B (Updated mitigation measures)). The BFEMEP will be developed in consultation with NSW RFS.

Issue raised

Land within the footprint of compounds, any temporary construction compounds, telecommunication huts and accommodation facilities, located within a 'bushfire survey area', shall be managed as an asset protection zone (APZ) as specified in Appendix 4 of Planning for Bush Fire Protection 2019.

Response

Transgrid's commitment to establishing and maintaining APZs is included in revised mitigation measure HR1 (refer to Appendix B (Updated mitigation measures)) and applies to substations and project buildings within construction compounds and temporary accommodation facilities. APZs will be established from the earliest stages of construction and maintained throughout operation in accordance with *Planning for Bush Fire Protection: A guide for councils, planners, fire authorities and developers' requirements* (NSW RFS, 2019).

Technical Report 13 – Bushfire Risk Assessment Addendum of the Amendment Report provides the updated APZs for the amended project.

Issue raised

The APZs and construction requirements outlined in the *Technical Report 13 – Bushfire Risk Assessment* of the EIS should be amended in a Bush Fire Risk Assessment Report addendum, by a suitably qualified bush fire consultant, to address the following:

- Any new workers accommodation facilities (ie Tumbarumba Accommodation Facility (AC1) should be provided with a 10KW/m² APZ (based on a flame temperature of 1200K) and Bushfire Attack Level (BAL) 12.5 construction.
- APZs and construction of substation compounds should be either commensurate with (i) the radiant heat exposure limits identified by design, for substation materials that provide for their structural integrity and operational capacity or, (ii) construction and materials shall be in accordance with the relevant BAL, commensurate with the APZs provided.
- The APZs/construction levels in Figures A1-A14 of the *Technical Report 13 – Bushfire Risk Assessment* of the EIS appear to have been calculated based on AS3959-2018. APZs/construction should be re-calculated in accordance with Planning for Bush Fire Protection 2019 to address the following:
 - Where a mix of hazards exist, the greater hazard should be used to calculate the APZs. For example Figure A3 Snubba Road Compound (C03) uses grassland hazards to calculate the APZs when a Forest hazard appears to be the greater of the hazards located within 140 metres.
 - The APZs should comply with Table A1.12.5 and/or A1.12.6 of Planning for Bush Fire Protection 2019. For example the distances shown on Figure A14 Snubba Road Compound (C16) and Woodhouselee Road Compound (C11) and Memorial Avenue compound (C14) do not appear to meet the requirements of Table A1.12.6.
- The Maragle substation (C05) should not be located within potential flame contact, as appears is proposed in Table 9-2 of the *Technical Report 13 – Bushfire Risk Assessment* of the EIS.

Response

NSW RFS's preferences for calculating the APZs is noted.

Following further construction planning and consultation with landowners, there have been changes to the number and location of construction ancillary facilities for the project, including worker accommodation facilities and construction compounds. Several facilities included in NSW RFS's submission have now been removed from the project, including the Tumberumba accommodation facility (AC1), Snubba Road compound (C03), Woodhouselee Road Compound (C11), and Snubba Road Compound (C16). Further details on the changes to the worker accommodation facilities and construction compounds are documented in Chapter 3 (Description of the amended project) of the Amendment Report. However, the APZs for the new and amended ancillary facilities have been calculated based on NSW RFS's preferences.

The APZ requirements and the bushfire hazards, which inform APZ dimensions for the new and amended ancillary facilities, are detailed in Table 5-2 of *Technical Report 13 – Bushfire Risk Assessment Addendum* of the Addendum Report. Where APZs differ in each direction depending on the distance to vegetation, the largest APZ is listed. The APZ requirements for construction compounds that remain unchanged from the EIS will be confirmed during detailed design in accordance with revised mitigation measure HR1 and NSW RFS's preferences. Further details on APZ requirements, construction standards, and building requirements for the new and amended ancillary facilities are provided in *Technical Report 13 – Bushfire Risk Assessment Addendum* of the Amendment Report.

Issue raised

Vegetation management works associated with the transmission lines should achieve the standards of an APZ that avoids potential flame contact and mitigates radiant heat (providing for reduced ignition and heat damage and a safer environment for firefighters to operate). Accordingly, vegetation management for transmission lines should be commensurate with the design process to determine the radiant heat exposure limits for the structural and operational capacity of the infrastructure. A vegetation management plan should be provided outlining maintenance requirements.

Response

Vegetation along the transmission line and around the transmission line structures would be cleared in accordance with Section 10.5.5 of the *Transmission Line Construction Manual - Major New Build*, which provides requirements for vegetation clearance to minimise bushfire risk.

Vegetation within the transmission line easement will be managed in accordance with Transgrid's existing vegetation management standards, consistent with the clearance requirements principle identified in *AS/NZS7000:2016 Overhead Line Design* as detailed in the *Humelink Vegetation Clearing Method and Memorandum* (2023b).

Issue raised

Transmission lines should be constructed to withstand fire-driven winds, potential flame contact, striking, and the applicable radiant heat level (kW/sqm) from surrounding vegetation as identified. Construction and design requirements should consider how to mitigate these risks and accommodate the most vulnerable component of the transmission lines.

Response

Transgrid does not stipulate any specific conductor performance requirements regarding exposure to radiant heat from bushfires. The phase conductors to be used for the proposed transmission lines are ACSR/GZ (Aluminium Conductor Galvanised Steel Reinforced) and AACSR/GZ (Aluminium Alloy Conductor Steel Reinforced) designed to the requirements of Australian Standard AS/ 3607-1989 *Conductors - Bare overhead, aluminium and aluminium alloy - Steel reinforced (Reconfirmed 2016)*. The 500 kV transmission lines would have Orange ACSR/GZ and Orange AACSR/GZ conductor types, respectively.

The heat from bushfires can impact conductors through various mechanisms, which can immediately impact conductor performance or result in performance impacts over the longer term. Following a bushfire event, Transgrid would inspect the transmission line and replace sections of damaged conductor/hardware, if required.

Issue raised

Access (both proposed and existing) should be constructed/upgraded to comply with the following requirements:

- The road has a minimum carriageway width of four metres. Any carriageway constriction along the road must be no less than 3.5 metres in width and for a distance of no greater than 30 metres.
- In forest, woodland and heath situations, rural property access roads have passing bays every 200 metres that are 20 metres long by two metres wide, making a minimum trafficable width of six metres at the passing bay.
- A minimum vertical clearance of four metres is provided to any overhanging obstruction, including tree branches.
- A loop road around any dead end provides a turning circle with a minimum 12 metre outer radius.
- Curves have a minimum inner radius of six metres and are minimal in number to allow for rapid access and egress. The minimum distance between the inner and outer curves is six metres.
- Maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads. The crossfall does not exceed 10 degrees.
- Pavements and bridges are capable of carrying a load of 15 tonnes. Bridges clearly indicate load rating.
- Roads do not traverse a wetland or other land potentially subject to periodic inundation (other than a flood or storm surge) unless the flood immunity afforded to the road is considered acceptable by the approval authority.

Response

NSW RFS's recommendations for access requirements are noted. As discussed in *Technical Report 13 – Bushfire Risk Assessment* of the EIS, access routes for the project have been considered in relation to the bushfire survey areas (ie substations and ancillary facilities) in accordance with *Planning for Bush Fire Protection: A guide for councils, planners, fire authorities and developers' requirements* (NSW RFS, 2019). It is noted that the NSW RFS's recommendations are consistent with the requirements from *Planning for Bush Fire Protection: A guide for councils, planners, fire authorities and developers' requirements* (NSW RFS, 2019). Mitigation measure HR4 would ensure that the access routes for substations and ancillary facilities within the bushfire survey areas are designed accordingly.

All other access tracks outside bushfire survey areas including the new and upgraded access tracks proposed for the transmission line component of the amended project are not required to meet the NSW RFS standards for fire trails in accordance with *Planning for Bush Fire Protection: A guide for councils, planners, fire authorities and developers' requirements* (NSW RFS, 2019). The design and maintenance requirements for these access tracks are included in Chapter 3 (Description of the amended project) of the Amendment Report and revised mitigation measure TT1 (refer to Appendix B (Updated mitigation measures)). However, the new and upgraded access tracks may be incidentally used for firefighting as required, similar to existing tracks within the landscape.

Further details on the access requirements for the new and amended ancillary facilities are provided in *Technical Report 13 – Bushfire Risk Assessment Addendum* of the Amendment Report.

Issue raised

Suitable water supply with adequate firefighting access (ie a minimum 20,000-litre water supply (tank) fitted with a 65 mm Storz fitting) should be located outside each compound located within a 'bushfire survey area'.

Response

NSW RFS's recommendation for water supply for firefighting purposes is noted. A minimum 20,000-litre static water supply for firefighting purposes will be provided for each construction facility and worker accommodation facility where no reticulated water is available. This requirement has been captured in the new mitigation measure HR15 as follows (refer to Appendix B (Updated mitigation measures):

A minimum of 20,000 litre static water supply for firefighting purpose will be provided for each construction compound and worker accommodation facility where no reticulated water is available in accordance with Planning for Bush Fire Protection: A guide for councils, planners, fire authorities and developers (NSW RFS, 2019).

Issue raised

A copy of the Bushfire Emergency Management and Evacuation Plan (BFEMEP) proposed in section 9.2 of the *Technical Report 13 – Bushfire Risk Assessment* of the EIS should be submitted to the relevant NSW RFS District offices, and Bush Fire Risk Management Committees. Any operational comments provided by the District offices should be incorporated into an amended plan.

Response

NSW RFS's recommendation to submit the BFEMEP to RFS District offices and Bush Fire Risk Management Committees is noted. The BFEMEPs will be developed in consultation with NSW RFS.

5.16. NSW Telco Authority

Issue raised

Our primary concerns over the HumeLink project are impacts to our microwave links and land mobile radio coverage from our Public Safety Network (PSN) sites. Specifically, the location of the transmission pylons may obstruct our microwave link paths or shadow radio frequency (RF) coverage in the region. Link obstruction can impact connectivity to multiple downstream land mobile radio sites and thus lead to loss of coverage in the region. We recommend that as part of the consideration for locations of each transmission pylons, impacts to all government microwave links traversing the area must be assessed.

Response

Transgrid has had ongoing consultation with NSW Telco Authority to assess and address specific areas of concern. Correspondence with NSW Telco Authority in late October 2023 confirmed it no longer has concerns about site coverage, just point-to-point transmission pathways. Obstructions to microwave links and land mobile radio coverage will continue to be reviewed during further detailed design in consultation with NSW Telco Authority.

Issue raised

There are limited sites for the PSN in remote regions and opportunities to relocate sites to overcome link obstruction are typically not viable. Therefore, we request that the final design should not obstruct any licensed links in the area. A reasonable measure to avoid any risk of obstruction would be to include a 100-metre exclusion zone either side of the link path. Any part of the pylon's structure shouldn't intrude into the exclusion zone.

Response

Consultation is ongoing with NSW Telco Authority to assess and address the specific areas of concern. Advice provided by NSW Telco Authority in late October 2023 suggested there are nine transmission line structures within 100 metres of point-to-point transmission pathways, based on the amended project preliminary detailed design. During further detailed design, efforts would be made for the transmission line structures to be situated outside the 100-metre exclusion zone. It is noted that three transmission line structures are within 20 metres of point-to-point transmission pathways. If this cannot be avoided through micro-siting during detailed design, site-specific mitigation measures would be determined in consultation with NSW Telco Authority to manage potential impacts.

Issue raised

The latest radiocommunications data for point-to-point licences can be obtained using ACMA's website. The impact assessment should be extended to other NSW government agencies and network operators.

Response

The advice from NSW Telco Authority is noted. Transgrid acknowledges that additional assessment is required as part of micro-siting new transmission line structures during further detailed design. Transgrid will continue to consult with NSW Telco Authority during the detailed design stage to resolve potential impacts.

Issue raised

NSW Telco Authority understands at this moment the transmission pylon locations are not confirmed. If a transmission pylon is too close to any PSN site, it can obstruct and attenuate signal and reduce the site's coverage footprint. When the pylon locations are available, we'd like to assess and provide feedback on any coverage impacts to our sites.

Response

Correspondence with NSW Telco Authority in late October 2023 confirmed it no longer has concerns about site coverage, just point-to-point transmission pathways. Transgrid will continue ongoing consultation with NSW Telco Authority to assess and address specific areas of concern. Measures to avoid or minimise impacts on point-to-point transmission pathways, where feasible and reasonable, would be developed in consultation with the NSW Telco Authority.

5.17. Transport for NSW

Issue raised

Transport for NSW (TfNSW) has reviewed the information and has no objections to the proposed development provided the comments in Attachment 1 of its submission are considered in the development consent.

Response

Transgrid notes TfNSW's position. Responses to the comments raised in Attachment 1 of the TfNSW submission are detailed below. DPHI will consider conditions of approval during the preparation of the assessment report for the project. In considering the need for conditions of approval, DPHI may seek advice from government agencies that administer or regulate the impacts of State significant projects.

Issue raised

TfNSW notes that in determining the application under the EP&A Act, it is the consent authority's responsibility to consider the environmental impacts of any road works that are ancillary to the development (such as removal of trees, relocation of utilities, stormwater management, etc). Depending on the nature of the works, the consent authority may require the developer to submit a further environmental assessment for any ancillary road works.

Response

The project description and environmental impact assessment have considered road work that is ancillary to the development. Chapter 3 (Project description – infrastructure and operation) and Chapter 4 (Project description – construction) of the EIS included anticipated road work to support the construction and operation of the project. The extent and design of the road work would be confirmed during detailed design and informed by road condition assessments. Road work to support the construction and operation of the project would be carried out in accordance with the relevant Austroads Guides (where applicable), any road occupancy licence(s), and in consultation with the relevant road authority.

Since the EIS was exhibited, ongoing design and construction methodology development has identified new access tracks or upgrades to existing access tracks to connect construction areas and the transmission line easement to the existing road network. Chapter 3 (Description of the amended project) of the Amendment Report provides further detail on anticipated work associated with new and upgraded access tracks. Further assessment has been carried out for the amended project and is described in Chapter 6 (Assessment of impacts) of the Amendment Report.

Any ancillary road work not previously contemplated by the amended project would be subject to additional environmental assessment in accordance with the process described in Chapter 26 (Environmental management) of the EIS, as required.

Issue raised

TfNSW has assessed the project based on the documentation provided and the mitigation measures outlined in Table 20-4 of the EIS and in Table 9-1 of *Technical Report 16 – Traffic and Transport Impact Assessment* of the EIS and would raise no objection on the basis that the Consent Authority ensures that the development is undertaken in accordance with the information submitted subject to the issues outlined below being addressed.

Response

Transgrid notes TfNSW position. Appendix B (Updated mitigation measures) provides a compilation of the mitigation measures, including any new or revised mitigation measures to be implemented for the amended project.

Issue raised

The submitted documentation relies on further design and detail in relation to specific issues such as construction of access arrangements to the public road network, the stringing of lines across both the road and rail network, etc. In this regard TfNSW requires that further consultation be undertaken and appropriate approvals be obtained prior to any works occurring within the road reserve of the classified road network or rail corridors.

Response

Transgrid has and will continue to consult with TfNSW to ensure appropriate approvals are obtained before any work occurring within the road reserve of the classified road network or rail corridors.

Chapter 4 (Project description – construction) of the EIS and mitigation measures TT3 and TT8 include commitments to engage with the relevant road authority regarding road work on the existing road network. As such, any road work proposed for classified roads would include engagement with TfNSW. As stated in Chapter 5 (Statutory context) of the EIS, a road occupancy licence under section 138 of the *Roads Act 1993* would also be obtained to allow work to be carried out on classified roads or to temporarily close lanes or roads for stringing the transmission line (refer to mitigation measure TT6 in Appendix B (Updated mitigation measures)).

Similarly, for work occurring within rail corridors, such as stringing of transmission lines, work would be undertaken with suitable worksite protection in place and in accordance with the rail line owner/operator's requirements (refer to mitigation measure TT5 in Appendix B (Updated mitigation measures)).

Issue raised

Approval under section 138 of the *Roads Act* is required from the relevant road authority for any works within the road reserve including driveway works and works associated with the stringing of lines across the road reserve. For classified roads concurrence is required from TfNSW before the approval can be granted. Any works that occupy part of a travel lane or disrupt traffic flow on a classified road will also require road occupancy licence.

Response

The need to obtain a road occupancy licence under section 138 of the *Roads Act 1993* for project construction is noted and discussed in Chapter 5 (Statutory context) and Appendix B (Statutory Compliance Table) of the EIS. Concurrence from TfNSW would be sought for road occupancy licences required for work on classified roads.

Issue raised

TfNSW is the rail authority of the Country Rail Network (CRN) across NSW and the Transport Asset Holding Entity (TAHE) is a State-owned corporation that holds rail property assets and rail infrastructure, including the CRN. As of 29 January 2022, UGL Regional Linx (UGLRL) has been appointed by TfNSW to

manage the CRN and will be responsible for reviewing and providing advice regarding potential impacts to the CRN.

Any works that requires access to any part of the rail land within the CRN is prohibited unless it is permitted in advance. The proponent is required to consult UGLRL's Third Party Works team via thirdpartyworks@uglregionallinx.com.au to obtain written confirmation and satisfy requirements by UGLRL on behalf of TfNSW.

Response

Engagement with UGLRL regarding the project and its potential impact on the CRN has been ongoing since October 2022. Transgrid would obtain written confirmation and satisfy the requirements of UGLRL on behalf of TfNSW.

Issue raised

Section 9.3 of the *Technical Report 16 – Traffic and Transport Impact Assessment* and Table 20-4 of the EIS outlines mitigation measures that propose to address road and transport related matters generated by the project. Access driveways to the classified road network shall be kept to a minimum and any access tracks to the road network that are not required for operational purposes should be required to be removed at the completion of the construction phase for road safety reasons to remove unnecessary conflict points along the network.

Response

Since the EIS was exhibited, ongoing design and construction methodology development has identified new access tracks or upgrades to existing access tracks to connect construction areas and the transmission line easement to the existing road network. Chapter 3 (Description of the amended project) of the Amendment Report provides further detail on anticipated work associated with new and upgraded access tracks and connection requirements.

New connections to the classified road network have been minimised where practical. The requirement for any upgrade to existing access points will be determined in consultation with local council, TfNSW and the property owner, as appropriate. As stated in Chapter 3 (Description of the amended project), the use of some upgraded tracks and new access tracks would be required during the operation of the project for asset maintenance given their general proximity to the transmission line corridor. However, these asset maintenance activities can predominantly be undertaken with light vehicle access within the easement and the use of formed access tracks may not be required to all transmission line structures.

Based on the current design development and construction planning, it is estimated that about 40 per cent of substantially upgraded tracks and new access tracks, would be reinstated with groundcover following construction. This estimate excludes upgraded tracks which are currently well established and regularly utilised by landowners. The final extent of reinstatement is uncertain, given that some landowners may wish to retain access tracks which Transgrid do not intend to use for asset maintenance. Transgrid will continue to consult with landowners to determine the post construction condition of access tracks. All requirements would be documented within the property-specific property management plans as required by revised mitigation measure LP2 (refer to Appendix B (Updated mitigation measures)).

Issue raised

Mitigation measure TT1 of Table 20-4 of the EIS should be amended to read: “All access tracks, access connections and road upgrades shall be located, designed and constructed according to relevant Austroads guides, particularly the Austroads Guide to Road Design. Proposed access tracks to the road network shall be constructed only where there are no practical existing access driveways and in consultation with the relevant landholder and road authority. All access tracks not required for operational access shall be removed at completion of the construction phase of the project within that locality.”

Response

Transgrid acknowledges the recommendation to revise mitigation measure TT1.

New access tracks or upgrades to existing access tracks to connect construction areas and the transmission line easement to the existing road network have been identified since the public exhibition to the EIS. Further detail and consideration of potential connections to the road network is provided in Chapter 3 (Description of the amended project) of the Amendment Report.

As part of preparing *Technical Report 16 – Revised Traffic and Transport Impact Assessment* of the Amendment Report to assess the amended project, mitigation measure TT1 has consequently been revised as follows:

Access tracks, access connections and road upgrades required to facilitate the movement of project related traffic will be designed and constructed in a fit for purpose manner for construction. Where required, intersection works with public roads will be designed and constructed according to relevant Austroads guides or the relevant asset owners and standards.

The revision to mitigation measure TT1 is considered consistent with the recommendation provided by TfNSW. The approach to removing upgraded tracks and new access tracks is discussed above.

Issue raised

As a minimum, driveways to the classified road network for the construction compounds, workers camps and substations shall be designed and located in accordance with the *Austroads Guide to Road Design* (2023), particularly the sight distance requirements, for the posted speed limit with a minimum width to accommodate two-way movement of the largest vehicles likely to access that driveway and be sealed for at least 10 metres from the edge of seal of the carriageway. Any gates to these sites shall be located a minimum of 30 metres from the edge of seal of the carriageway of the road. The intersection treatments and driveways for these temporary sites shall be removed when these become redundant.

Section 4.2.1.6 of the EIS advises that the extent and design of the road improvement work would be confirmed during detailed design. TfNSW requires that all site access intersections to the classified road network, particularly for the construction compounds and worker accommodation facilities, be assessed in accordance with Austroads guide to Road Design and be upgraded to provide a sealed Basic Right Turn (BAR)/Basic Left Turn (BAL) intersection treatment as a minimum. A strategic design shall be supplied for each connection to the classified road network in accordance with the following link - <https://www.transport.nsw.gov.au/system/files/media/documents/2022/strategic-design-fact-sheet-02-2022.pdf>

Response

Temporary access to Maragle 500 kV substation compound (C05) would be required from Elliot Way, which is a classified regional road. As discussed in Chapter 4 (Project description – construction) of the EIS, the area proposed for Maragle 500 kV substation compound (C05) would overlap with the area required for the construction and installation of the substation as described in *Snowy 2.0 Transmission Connection Project Amendment Report* (Transgrid, 2022b). Coordination with the Snowy 2.0 Transmission Connection Project and the relevant road authority would be carried out to confirm the access arrangements and application of TfNSW requirements for connections to the classified road network.

Direct connections to the classified road network would not be required for all other proposed ancillary facilities required for the construction of the project. Similarly, connections to the classified road network would not be required for the proposed Gugaa 500 kV substation or upgrades to Wagga 330 kV substation or Bannaby 500 kV substation.

As part of the amended project, new or upgraded connections to the classified State and regional road network may be required for some new access tracks or upgrades to existing access tracks in order to access the transmission lines. The classified State roads include the Hume Highway, Snowy Mountains Highway, Batlow Road, Gocup Road, Lachlan Valley Way, and Crookwell Road / Goulburn Road. The classified regional roads include Tumbarumba Road, Elliot Way, Burrinjuck Road, Rye Park, Grabben Gullen Road, and Taralga Road. The connection requirements would be confirmed during detailed design and with further construction planning in consultation with the relevant road authority. Depending on the frequency and/or duration of use of the connection, it may be preferable to use temporary traffic controls to manage the ingress and egress of construction vehicles in accordance with mitigation measure TT3. Notwithstanding, Transgrid will provide all relevant design information and supporting documentation as requested by TfNSW as part of consultation with the relevant road authority.

Chapter 6 (Assessment of impacts) of the Amendment Report provides an assessment of the new or upgraded connections to the classified road network.

Issue raised

A Works Authorisation Deed (WAD) is required for new driveways where an intersection treatment (eg Basic Right Turn /Basic Left Turn) is required on the classified “state” road network. Refer to the following link for guidance regarding any works requiring a WAD - <https://roads-waterways.transport.nsw.gov.au/business-industry/partners-suppliers/private-development/road/wad.html>. TfNSW requires that the Traffic Management Plans (TMP) required for the construction of the driveway access and intersection treatment be retained and implemented for the duration of the occupation of the accommodation and construction compound sites.

Response

No ancillary facilities would be required to connect to the classified State road network. However, new or upgraded connections to the classified State road network may be required for some new access tracks or upgrades to existing access tracks.

In addition, as stated in Chapter 20 (Traffic, transport and access) of the EIS, a TTMP would be implemented for the project, which would further identify requirements for minimising traffic impacts. The TTMP would form part of the CEMP and would be prepared in consultation with each relevant council and TfNSW to identify the key management and response strategies to minimise potential delays and disruptions that may arise from the project.

Issue raised

A plan shall be prepared in consultation with the relevant road authorities to outline measures to manage the movement of workers and deliveries to the project site to address unnecessary worker traffic generation and fatigue-related issues, particularly for drivers. The plan is to provide initiatives to reduce traffic commuting to the development site by facilitating shuttle bus services for workers. The plan is to include regular consultation with Council, TfNSW and NSW Police to address commuter traffic and commuter traffic-related incidents on public roads.

A Traffic and Transport Management Plan shall be prepared in consultation with the relevant road authorities (council and TfNSW) to outline measures to manage traffic associated with the construction of the development including the movement of plant and components to the various sites. The plan for the movement of oversize plant to the site shall involve the appointed transport contractor. The plan shall focus on the management of traffic generated by the development, the potential impacts, the measures to be implemented to mitigate traffic generated issues, and the procedures to monitor and ensure compliance. It shall address, but not necessarily limited to:

- (a) measures to be employed to manage the movement of construction and worker vehicles to minimise disruption to other motorists, emergency vehicles and school bus timetables
- (b) measures to provide and maintain safe vehicle access to and from construction compounds and work sites
- (c) precautionary measures such as signage to inform other road users of the construction activities for the project
- (d) details of traffic routes to be used by heavy vehicles associated with the project, including any necessary route or time restriction for oversized vehicles
- (e) the details of any oversize and overmass haulage, including exact transport routes, road-specific mitigation measures, haulage timing, etc and any special permits required to be obtained
- (f) measures to maximise the use of a low frequency (regular) trucking schedule rather than intermittent high frequency (campaign) trucking schedule to minimise convoys or platoons
- (g) proposed hours for construction and plant movement activities
- (h) any required changes to the existing road environment along the proposed routes such as intersection upgrade, road widening, temporary street closures, removal and replacement of road infrastructure, etc
- (i) contingency plans to address disruptions to haulage due to low visibility eg heavy rain periods, fog etc or closure of the haulage route
- (j) a Driver Code of Conduct to address such items as; appropriate driver behaviour including adherence to all traffic regulations and speed limits, safe overtaking and maintaining appropriate distances between vehicles, etc and appropriate penalties for infringements of the Code
- (k) emergency response plans
- (l) procedures for informing the public where access along any road will be restricted as a result of the project
- (m) details of procedures for receiving and addressing complaints from the community concerning traffic issues associated with truck movements
- (n) procedures to provide for training and compliance with and enforcement of the plan.

Response

TfNSW's request to prepare the TTMP and associated requirements is noted. The TTMP would be developed and implemented for the project and prepared in consultation with each relevant council and TfNSW. The plan will be guided by *Traffic Control at Work Sites version 6.1-Technical manual* (TfNSW, 2022). Chapter 20 (Traffic, transport and access) of the EIS states that the TTMP would include but is not limited to:

- measures to minimise disruption to pedestrians, cyclists and motorists
- management of safe vehicle access/egress from construction compounds and other work sites
- measures to manage oversized and/or overmass vehicle movements during construction
- management of long-distance travel through driver fatigue management measures
- measures to ensure safe access to existing properties during construction or provision of suitable alternatives.

5.18. WaterNSW

Issue raised

WaterNSW has reviewed the EIS and determined that the proposal should not impact on water supply infrastructure or water quality at our lands and assets, due to sufficient separation. It is considered that the mitigation measures outlined within the EIS will manage the project impacts adequately, including impacts to soil and water, if implemented in full.

Response

Transgrid notes WaterNSW's position. The project would not impact on water supply infrastructure or impact any land owned by WaterNSW.

Issue raised

A neutral impact on water quality for parts of the project located within the Sydney Drinking Water Catchment is expected if the prescribed mitigation measures are implemented.

Response

The position of WaterNSW is noted. Refer to Appendix B (Updated mitigation measures) for a compilation of the mitigation measures, including any new or revised mitigation measures to be implemented to address any water quality issues for the amended project.

Issue raised

If, during the implementation of the project, interaction with any WaterNSW asset is encountered, WaterNSW requests that the proponent contacts WaterNSW to discuss any potential impact and mitigation measures.

Response

WaterNSW's request is noted. If any WaterNSW asset is encountered during the delivery of the project, Transgrid or the construction contractor will contact WaterNSW to discuss any potential impacts and agree on any mitigation measures, if required.

6. Response to local council submissions

This chapter provides responses to the issues raised in submissions by local councils, as presented in alphabetical order. It also provides a response to issues raised by the Canberra Region Joint Organisation. Issues raised by local councils and the Canberra Region Joint Organisation have been presented generally verbatim and in the same order as provided in their submission. However, some minor editing or summarising has been undertaken to provide sufficient background to the issue or to improve the presentation as a standalone issue.

Consultation with local councils has continued since the public exhibition of the EIS as detailed in Chapter 5 (Engagement) of the Amendment Report. Consultation has included the proposed amendments and refinements as discussed in Chapter 4 (Actions taken since public exhibition) and potential traffic impacts and proposed mitigation measures to manage these impacts. Concerns raised during the consultation have been considered in preparing the responses outlined below and as part of developing the amended project. Transgrid will continue to consult with local councils during further design development and construction planning as detailed in Chapter 5 (Engagement) of the Amendment Report.

6.1. Goulburn Mulwaree Council

Issue raised

Goulburn Mulwaree Council acknowledges that the project will not have a physical footprint in its Local Government Area (LGA), however, does note that the project passes through land owned by Goulburn Mulwaree Council (ie Pejar Dam). Furthermore, Goulburn Mulwaree Council notes that due to the location of the project, the Goulburn Mulwaree LGA will be exposed to traffic impacts as a result of construction.

Response

Transgrid acknowledges Goulburn Mulwaree Council's ownership of the land at Pejar Dam and concerns regarding potential construction traffic impacts within Goulburn Mulwaree LGA. Transgrid and the construction contractor will continue to engage with Goulburn Mulwaree Council on the acquisition of the easement and the construction methodology and approach to work at Pejar Dam.

As stated in Chapter 20 (Traffic, transport and access) of the EIS, a Traffic and Transport Management Plan (TTMP) would be implemented for the project. The TTMP would identify requirements for minimising traffic impacts during construction. Appendix B (Updated mitigation measures) also provides several traffic-related mitigation measures to be implemented during construction to minimise traffic impacts. With the implementation of the TTMP and the traffic-related mitigation measures, traffic impacts within Goulburn Mulwaree LGA are expected to be appropriately managed. Transgrid and the construction contractor will continue to engage with Goulburn Mulwaree Council on matters related to traffic management during construction of the project and as required in the TTMP.

A new ancillary facility as part of the amended project, the Crookwell accommodation facility and compound (AC06), is proposed to be located off Graywood Siding Road, about 18.1 kilometres north of Goulburn. The new facility is located on the border of the Goulburn Mulwaree LGA. However, parts of the existing property access road to the facility are located within Goulburn Mulwaree LGA. Maintenance works only are proposed for the property access road. As such, impacts within the LGA due to the use of the road are expected to be minimal and managed in accordance with the TTMP and other traffic-related mitigation measures.

6.1.1. Traffic impacts

Issue raised

Considering the traffic issues and mitigation measures identified in the EIS, Goulburn Mulwaree Council believes that any impact on road condition that may occur will be identified and rectified following consultation with us as the road authority following the project's completion. The assessment predicts impact (generally) will be minor, in terms of both impact to drivers along the route and road condition.

Based on the information contained in the documents supplied, Goulburn Mulwaree Council is satisfied that the impacts to road users and road condition will be managed and mitigated to ensure minimal disruption occurs.

Response

Transgrid acknowledges Goulburn Mulwaree Council's position. Consultation with Goulburn Mulwaree Council would be carried out during the preparation of the road condition surveys and rectification of any damage to the roads within the Goulburn Mulwaree LGA will be undertaken in accordance with revised mitigation measure TT4. The mitigation measure was revised to include road condition assessment during and following construction to assess the damage to roads accessed by project related traffic as detailed in Appendix B (Updated mitigation measure).

6.1.2. Impact on Pejar Dam

Issue raised

Goulburn Mulwaree Council is in support of the alternate route across Pejar Dam as detailed in the EIS as it has less of an impact on the visual amenity of the Pejar Dam. Goulburn and surrounds are inland communities that have little access to water bodies for recreational use. Pejar Dam provides such a space for recreational boating (non-petrol powered boating eg sailing, kayaking, etc) and fishing for our community. This is important for our community.

Response

Transgrid notes that Goulburn Mulwaree Council supports the currently proposed transmission line route across Pejar Dam as it has less of an impact on visual amenity than earlier route options identified.

Consideration of landscape character and visual amenity impacts on Pejar Dam was provided in Chapter 14 (Landscape character and visual amenity) and *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS. In addition, the recreational and tourism value of Pejar Dam was acknowledged and considered in *Technical Report 7 – Social Impact Assessment* of the EIS.

Issue raised

The EIS indicates that the stringing of the lines is proposed to be completed using drones over water ways except Pejar Dam where boats are proposed to be used. For boating activities, it should be noted that Pejar Dam is an alpine water body and as such, additional precautions need to be taken when working on alpine waters. Further, powered boats are not permitted on the dam by the public. As such, any boating on the dam will need to:

- be completed at low speed to minimise any erosion of the banks
- utilise an appropriately serviced boat to ensure no fuel spillage into the dam

- utilise a boat that has been cleaned prior to use to prevent the spread of any weed species that may be on the boat from any prior use.

Response

The concerns of Goulburn Mulwaree Council regarding the use of boats for stringing of transmission lines across Pejar Dam are noted. Chapter 4 (Project description – construction) of the EIS detailed the use of boats as the likely construction methodology for stringing the transmission lines over Pejar Dam, including using a temporary exclusion zone to manage impacts on recreational users. Following further design development and construction planning, the construction contractors have identified a number of opportunities to use helicopters and drones during the stringing of the transmission lines as part of the amended project. This includes areas where it was previously thought that the use of helicopters or drones might be impractical, such as stringing over Pejar Dam (refer to Chapter 3 (Description of the amended project) of the Amendment Report for further details).

However, should the use of boats for stringing of transmission lines across Pejar Dam be preferred, the use of a temporary exclusion zone will be supported by a new mitigation measure LP7, which addresses Goulburn Mulwaree Council's concerns as follows:

Should boats be used to string transmission lines across Pejar Dam, they will be:

- *operated in a manner that minimises wash and bank erosion*
- *appropriately maintained, and include spill containment kits*
- *clean and free of visible debris and biological material before entering the water.*

Should drones or helicopters be used to string transmission lines across Pejar Dam, consultation will be undertaken with Goulburn Mulwaree Council to determine if further mitigation measures are required.

Goulburn Mulwaree Council will be consulted prior to finalising the methodology and undertaking the stringing of transmission lines across Pejar Dam.

6.2. Snowy Valleys Council

Issue raised

Snowy Valleys Council supports in principle the development of key infrastructure in NSW that assists in the delivery of renewable energy sources to both increase energy supply options within the State but also to guarantee electrical supply reliability.

The HumeLink proposal provides important enabling infrastructure to support the Snowy Hydro renewable energy project and deliver on crucial commitments of the Australian Government to reduce climate change emissions to achieve net zero by 2050. Whilst Snowy Valleys Council in principle supports the expansion of clean energy initiatives such as Snowy Hydro 2.0, including the development of network infrastructure around sustainable and renewable energy projects, it has a number of concerns in relation to the current Critical State Significant Infrastructure proposal being considered.

Response

Snowy Valleys Council's position on the project is noted. Consideration of Snowy Valleys Council's concerns regarding the project are provided in the responses below.

6.2.1. Accommodation facilities

Issue raised

Whilst it is acknowledged that the development is seeking to provide a standalone temporary accommodation facility for up to 200 workers, Snowy Valleys Council has concerns that contractors and subcontractors to the HumeLink project may seek to supplement this accommodation option by utilising existing depleted housing and accommodation stock outside of the proposed accommodation which will have a detrimental effect on both the local community and more broadly the regional economy.

The town centre of Tumbarumba has been recently impacted by the effects of subcontractors associated with HumeLink utilising up to half the accommodation offering at the Tumbarumba Caravan Park. Largely contractors associated with renewable energy projects in the region are continuing to contribute to these shortages in accommodation which is impacting on tourism and seasonal workers frequenting the region. This has also had detrimental effect on the regions' ability to attract skilled and professional labour to the area due to accommodation shortages.

Response

Transgrid notes the concerns raised by Snowy Valleys Council and acknowledges the ongoing feedback from various councils on the potential impacts the project may pose to the availability of short-term accommodation. Chapters 12 (Economic) and 13 (Social) of the EIS described these potential impacts.

Transgrid has had ongoing engagement with Snowy Valleys Council on the Tumbarumba accommodation facility (AC01) and their concerns during the development of the EIS and in the lead-up to the public exhibition of the EIS.

As a result of stakeholder and community feedback on accommodation issues and further construction planning, there are changes proposed to the number and location of construction ancillary facilities for the project, including worker accommodation facilities and construction compounds. Five new worker accommodation facilities are now proposed as part of the amended project, and the Tumbarumba accommodation facility (AC01) assessed in the EIS is no longer required. Further details on the accommodation facilities are provided in Chapter 3 (Description of the amended project) of the Amendment Report.

The new Green Hills worker accommodation facility and construction compound (AC07), located approximately 6.5 kilometres west of Batlow, is the only facility within the Snowy Valleys LGA. The Green Hills accommodation facility and compound (AC07) would occupy an area of up to 25.49 hectares of undulating land, formerly used for agriculture and accommodate up to 420 workers. Access to the accommodation facility and compound would be via existing property access of Green Hills Access Road. The location of the Green Hills accommodation facility and compound (AC07) provides a number of benefits compared to the Tumbarumba accommodation facility (AC01), including being located closer to the amended project footprint, which would minimise traffic impacts for Tumbarumba and surrounding areas and worker fatigue resulting from driving long distances.

Technical Report 7 – Social Impact Assessment Addendum of the Amendment Report also noted that the additional temporary worker accommodation facilities as part of the amended project would reduce the potential negative impacts associated with the impacts on short-term accommodation in nearby towns for tourists, the rental market and housing affordability that were identified in the EIS.

Snowy Valleys Council has been consulted on the proposed changes to the number and location of construction ancillary facilities for the amended project. Details of the ongoing engagement with Snowy Valleys Council regarding the amended project and how their feedback has been considered is provided in Chapter 5 (Engagement) of the Amendment Report.

Issue raised

The site for the proposed accommodation [the Green Hills accommodation facility and compound (AC07) as described in the Amendment Report and not the EIS] has been identified in a location which is isolated from the main towns and villages where it is expected that the region will receive minimal benefit from the proposed development. The site is expected to place pressure on local road networks and is expected to be constrained by way of its isolation to reticulated water supplies and also sewage disposal.

The location of the subject accommodation facility represents a missed opportunity which stems from a loss of social enrichment and connection of the workforce with the local community, a missed opportunity for local retail expenditure by the workforce investing in local communities and the diminished potential for legacy benefit through the donation of facility infrastructure to the community at time of decommissioning.

Whilst Snowy Valleys Council recognises that an accommodation facility is required to house the workforce, Snowy Valleys Council is of the view that such a facility should be located within the town centre so social and economic benefits from the facility can be leveraged within the town centre and the local community. Council has identified a site on the fringe of Tumbarumba being the town common on Alfred Street, Tumbarumba which could be exploited for this purpose to enable these opportunities as outlined to be realised or alternatively additional investment could be made in the local caravan parks and accommodation providers which would have a similar net benefit.

Response

During the development of the amended project, Transgrid has considered the concerns raised by Snowy Valleys Council and will continue to engage with Snowy Valleys Council throughout future stages of the project. Queries were raised about the connections to services and utilities (water, energy and waste) and impacts on nearby sensitive receivers. Further detailed information about the Green Hills accommodation facility and compound (AC07) was presented to council ahead of finalisation of the Amendment Report.

Following further consideration of the Tumbarumba location by the construction contractor, it was determined that this location was not suitable to facilitate the construction program, mainly due to its distance from other parts of the project footprint which would lead to long travel times (and therefore increased safety concerns) for workers. The Tumbarumba accommodation facility (AC01) is therefore no longer required for the amended project. The Green Hills accommodation facility and compound (AC07) is the only accommodation facility proposed within Snowy Valleys LGA.

The Green Hills accommodation facility and compound (AC07) is located approximately 6.5 kilometres west of Batlow and has been selected as its proximity to the transmission line corridor would allow efficient access to the amended project footprint during construction. This accessibility would also minimise traffic impacts on local roads and reduce worker fatigue and other safety risks associated with driving long distances. The Green Hills accommodation facility and compound (AC07) would provide similar benefits to the former Tumbarumba accommodation facility (AC01) in terms of managing impacts on short-term accommodation, the rental market and housing affordability that were identified as issues in the EIS. However, given its remote location, the Green Hills accommodation facility and compound (AC07) would have less amenity-related impacts when compared to the former Tumbarumba accommodation facility

(AC01) as there are fewer sensitive receivers in the vicinity of the Green Hills accommodation facility and compound (AC07). For example, day-time noise levels from the establishment and operation of the Green Hills accommodation facility and compound (AC07) has the potential to affect 44 fewer sensitive receivers when compared to the former Tumbarumba accommodation facility (AC01).

Notwithstanding, based on recent experience on similar transmission line projects, it has been noted that non-resident workers at temporary worker accommodation facilities have joined local clubs and recreational facilities, such as bowling clubs, swimming pools, and libraries, and used regular bus services provided by the construction contractors to visit town centres to increase social interaction and economic benefits for local communities. The increased demand can bring benefits to the leisure and recreational facilities through increased expenditure/sales and increased participation in sporting pursuits. Additionally, the influx of workers during construction may increase patronage and trade for local businesses and present opportunities to expand sales with attendant commercial and broader economic benefits across the region. The construction of HumeLink is projected to generate substantial economic benefits at the regional, State and national level. These benefits would be realised through positive local employment, consumption from wages, and increased economic activity.

Further detail on this accommodation facility is provided in Chapter 3 (Description of the amended project) of the Amendment Report, with consideration of its benefits and impacts included in Chapter 6 (Assessment of impacts) of the Amendment Report.

6.2.2. Undergrounding versus overhead aerial infrastructure

Issue raised

Snowy Valleys Council has adopted a position that it rejects and vehemently opposes the use of overhead wires and lattice towers within the Snowy Valleys LGA. This position has been made resolute in its recent evidence provided to the New South Wales Public Enquiry into Undergrounding of electrical infrastructure associated with HumeLink.

Snowy Valleys Council has provided a copy of the written submission (Annexure 1) which should be considered as part of the assessment of the critical infrastructure proposal for HumeLink.

Council stands by the evidence provided in the submission that undergrounding is feasible, practical and should be pursued to optimise the project outcomes, minimise future maintenance obligations and to ensure that the Snowy Valleys community is protected from avoidable adverse impacts associated with the construction of overhead transmission lines.

Response

Transgrid acknowledges Snowy Valleys Council's submission to the parliamentary inquiry and its position on undergrounding of electrical infrastructure.

The recent parliamentary inquiry into the feasibility of undergrounding the transmission infrastructure for renewable energy projects, which was established on 22 June 2023, concluded on 31 August 2023 that undergrounding HumeLink is not a feasible option. HumeLink is urgently required to avoid rolling blackouts and jeopardising the supply of electricity to millions of Australians on the eastern seaboard. As such, Transgrid remains committed to HumeLink's completion in 2026. Further, the delays associated with undergrounding will result in a loss of up to \$1 billion in lower-cost renewables for consumers. Delays will also result in a slower retirement of fossil fuel assets. Given the cost-of-living pressures being experienced by consumers, this is particularly pertinent, and Transgrid is committed to doing everything it can to put

downward pressure on customer bills. In addition, delays associated with undergrounding would have a significant impact on network security.

Further consideration of community and organisation concerns about the project involving overhead transmission lines instead of underground is provided in Chapter 7 (Response to community and organisation submissions) with additional detail provided in Section 7.2.1.

6.2.3. Community Enhancement Fund

Issue raised

It is widely recognised that the development as proposed will have profound social, economic and environmental impacts on the Snowy Valleys Community. Those impacts will have the greatest effect on the community during the construction phase of the development but will also have a measurable and lasting impact over the lifespan of the project.

Snowy Valleys Council had commenced preliminary discussions with the proponent prior to lodgement of the application with the Department to ascertain an appetite for the establishment of a Community Enhancement Fund, a fund that would provide an annual indexed monetary contribution to Snowy Valleys Council for community projects and associated social infrastructure. The proponent was not averse to the establishment of the fund and was open to the notion of how the mechanics of such a fund could operate to the benefit of the local community.

The Community Enhancement Fund will be an important step to ensure that the project provides a positive contribution and legacy for the Snowy Valleys community in the delivery of programs and projects to offset a portion of the expected impacts of the development.

Response

Transgrid acknowledges the request to establish a Community Enhancement Fund. Transgrid is not able to provide funding to Council to administer, however we plan to work closely with Snowy Valleys Council to co-design and deliver community programs and projects in consultation with the project communities and stakeholders to provide a positive contribution and legacy. Among the projects and scopes being considered, and subject to regulatory and Transgrid approval, are:

- regional telecommunications infrastructure – deployment of telecommunications infrastructure at defined and limited sites to improve connectivity in hard-to-reach regions to improve community connection and productivity
- exploring community investment opportunities to deliver community mental health training – to contribute to improving regional mental health services in areas impacted and associated with the development of electrical infrastructure
- cultural awareness training – to ensure the project team has the appropriate skills to engage with communities on the project impacts
- sponsorship of local business awards and events – to support the growth of local suppliers for current and future energy projects
- developing community investment opportunities such as repurposing project infrastructure for community benefit (for example, repurposing of temporary worker accommodation buildings at the end of the project to provide affordable accommodation for the community), and initiatives to improve biodiversity outcomes (for example, through revegetation projects)

- a dedicated community investment fund for HumeLink Community Partnership Program grant scheme – an opportunity for small grants to support local community organisations.

6.2.4. Landscape visual amenity impacts

Issue raised

The development as proposed will have irreversible impacts on the natural environment and landscape visual amenity as the project advances, unless the transmission lines are placed underground. The proponent has identified within the EIS that considerable land clearing will be required to create 70 to 140 metre wide easements for the lattice towers and transmission lines. The path of the infrastructure will create significant alteration to the natural landscape and the erection of structures will have a permanent modification to the Snowy Valleys vistas within the region. The Department should consider as part of the assessment of the proposal a detailed landscaping plan that seeks to provide additional landscaping opportunities of local endemic species within important view corridors from main roads, walking trails and vantage points throughout the proposed disturbance areas.

Response

Please refer to Section 6.2.2 for Transgrid's response to undergrounding.

The amended project includes realigning the transmission line route through Green Hills State Forest to the west of Batlow. Transgrid selected this route after extensive consultation and engagement with the community, landowners and other stakeholders. The Green Hills corridor amendment would reduce visual impacts in the Batlow area as the dense tree cover in much of this area would obstruct views to the amended project. Further details on the reduction in visual impact for the Batlow area are provided in Chapter 6 (Assessment of impacts) of the Amendment Report.

Approaches to avoid and minimise landscape character and visual amenity impacts have also been considered in the assessment in the EIS and for the amended project. Several mitigation measures have been proposed to manage potential landscape character and visual amenity impacts during construction and operation (refer to Appendix B (Updated mitigation measures)). The mitigation measures will seek to retain and protect vegetation and minimise landform changes, minimise light spill from temporary and permanent facilities, and provide visual screening or other options for residences where the project is predicted to have a moderate to high visual impact.

Snowy Valleys Council's suggestion of a detailed landscaping plan is noted. However, Transgrid does not consider a detailed landscaping plan necessary due to the number of mitigation measures proposed to manage landscape character and visual amenity impacts (refer to Appendix B (Updated mitigation measures)). In addition, transmission lines structures will have a pre-dulled steel finish to minimise the potential for glare and reflection thereby reducing their visibility in the landscape. This commitment has been included in new mitigation measure LV7 (refer to Appendix B (Updated mitigation measures)).

Issue raised

The application identifies that the development will predominately be located within the Bago State Forest which will intersect with the historic Hume and Hovel hiking track which has been identified as a key piece of tourist infrastructure in the Tracks and Trails Masterplan adopted by Snowy Valleys Council in 2023. Being a destination trail within the Snowy Valleys, it is expected that the proposed development will have significant visual and environmental impacts on the integrity of the trail. The proposal does not indicate how

these impacts will be appropriately managed nor does it address the likely impacts on tourism as a result of the development.

Response

The Hume and Hovell hiking track is a long-distance track extending from Yass to Albury, a distance of over 400 kilometres. The track follows a mix of boardwalks, walking tracks, roads, and fire trails.

The track passes through the 'Upland forest landscape character zone' as detailed in *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS and crosses the amended project near the Buddong Falls campground. The track passes through a range of landscapes and passes under and past existing transmission infrastructure.

Further advice from IRIS Visual Planning + Design, who prepared *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS, was provided to consider potential impacts further. It was noted that within the broader context of this trail, passing under the proposed transmission line would be a small visual intrusion into the broader views and would not materially affect the amenity of the wider track experience or likely affect associated tourism.

There would not be any view of the project from the Buddong Falls campground. However, Buddong Hut is located about 74 metres from the transmission line corridor. The potential for views to the project from this location would be managed by minimising the likelihood of glare and reflection of transmission structures in accordance with new mitigation measure LV7 (refer to Appendix B (Updated mitigation measures)).

6.2.5. Compensation for landowners and loss of viable agricultural land

Issue raised

It is understood that the proponent will be seeking to provide easements through private agricultural lands throughout the project areas. Should the proponent seek compulsory acquisition or register easements restricting the use of the land along any infrastructure route, Snowy Valleys Council requests that landowners be fairly compensated for the loss in value and agricultural viability of the land. Snowy Valleys Council suggests that a transparent framework be established to enable both upfront payments and ongoing compensation payments for the life of the project for the duration of the lifespan of the project.

Response

Chapter 11 (Land use and property) of the EIS states that any land or easements acquired for the project would be undertaken in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991* and the *Property Acquisition Standards* (Department of Finance, Services and Innovation, 2019).

Easement compensation payable under the *Land Acquisition (Just Terms Compensation) Act 1991* is a one-off payment based on a negotiation with a landowner which is informed by a valuation report completed by a qualified valuer. Transgrid also covers reasonable costs for the landowners own independent valuation and legal advice.

In addition to the easement compensation payable under the *Land Acquisition (Just Terms Compensation) Act 1991*, the NSW Government has a Strategic Benefit Payment (SBP) scheme for private landowners who would be affected by an easement associated with energy transmission projects that are required for the energy transition under the Australian Energy Market Operator's Integrated System Plan (ISP) and the NSW Government's Electricity Infrastructure Roadmap. Under the SBP scheme, private landowners will be paid a

set rate of \$200,000 per kilometre of transmission line easement, paid out in annual instalments over 20 years, linked to the Consumer Price Index (CPI). In other words, the SBP scheme is a payment of \$10,000 per kilometre of transmission line across privately owned land, paid annually over a period of 20 years and adjusted for inflation based on the CPI. The SBP scheme is being applied on HumeLink.

Issue raised

Snowy Valleys Council acknowledges that the project will have a considerable impact on the viability of some farming operations through restrictions placed on agricultural lands affected by transmission lines and tower infrastructure. The LGA has a strong livestock farming agricultural industry and appropriate protections should be implemented to ensure that farming operations are not impacted, impaired or sterilised as a result of the proposal.

Response

Transgrid and the construction contractors will take all reasonable steps to minimise disruptions to farming operations. Transgrid is consulting with landowners to develop property-specific property management plans (PMPs) that outline how impacts on the land and business operations will be minimised during finalisation of detailed design and during the construction phase. The PMPs will consider access to the property, seasonal restrictions around farming operations, livestock movements as well as biosecurity protocols for weed and pest management.

Potential impacts on agricultural land and the agricultural industry as a result of the project were assessed in Chapter 11 (Land use and property), Chapter 12 (Economic), *Technical Report 4 – Agricultural Impact Assessment*, and *Technical Report 6 – Economic Impact Assessment* of the EIS, and Chapter 6 (Assessment of Impacts) and *Technical Report 4 – Agricultural Impact Assessment Addendum* of the Amendment Report. Overall, the potential impacts on agricultural land from the project would be relatively small in the context of the regional agricultural industry, and the effect on agricultural production would be minimal. Adverse economic impacts of the project on existing agricultural enterprises are also expected to be minimal.

The realignment of the route through Green Hills State Forest to the west of Batlow, as described in Chapter 3 (Description of the amended project) of the Amendment Report, has the potential to reduce impacts on agricultural productivity in the Snowy Valleys LGA compared to that described in the EIS. The amended project has reduced the overall impact on agricultural land in Snowy Valleys LGA by around 902.5 hectares.

Further mitigation measures proposed to minimise impacts on agricultural land from the project are detailed in Appendix B (Updated mitigation measures).

6.2.6. Biodiversity offset credits

Issue raised

Notwithstanding the requirements of the *Biodiversity Conservation Act 2016*, Snowy Valleys Council acknowledges that the land clearing associated with the project is likely to require payment of a considerable offset credit to the NSW Government.

Snowy Valleys Council requests that any payments made should be re-invested in projects within the LGA to ensure that there is no net loss in biodiversity as a result of the project construction and future vegetation management.

Response

Biodiversity offset requirements for the project would be delivered in accordance with the Biodiversity Offset Strategy described in *Technical Report 1 – Revised Biodiversity Development Assessment Report*. The strategy proposes a combination of the following offset delivery options in order of preference:

- establishing Biodiversity Stewardship Agreement (BSA) sites on lands with like-for-like biodiversity values to those impacted by the project
- purchasing and retiring existing biodiversity credits currently available on the biodiversity credit register or via the Biodiversity Credits Supply Fund and Taskforce
- making a payment into the Biodiversity Conservation Fund for residual credits not sourced from the above preferred sources.

Transgrid has and is continuing to engage with landowners in and around the project footprint with the potential to establish BSA sites or purchase offset credits, including landowners in the Snowy Valleys LGA. The ultimate offset package for the amended project would depend on sourcing and securing suitable BSAs and/or credits, which may extend beyond the LGAs directly impacted by the project.

6.2.7. Biosecurity

Issue raised

Snowy Valleys Council requests that the Department ensures that the Weed Action Plan (WAP) program is not compromised through imposing approval conditions requiring the control of existing weeds and emerging weeds on any areas disturbed as part of the construction process. Snowy Valleys Council also requests that conditions are imposed to prevent the migration of weeds through the movement of materials and placement of materials stockpiles and the trafficking of seeds and seed-related materials on construction vehicles and vehicle tyres on any proposed traffic routes for the development.

Response

Potential impacts from the spread of weeds due to the construction of the project have been considered in Chapter 8 (Biodiversity) and Chapter 11 (Land use and property) of the EIS. During construction, the spread of weeds will be managed through the implementation of a Biosecurity Management Plan developed as part of the Biodiversity Management Plan (refer to Appendix B.1 (Updated biodiversity mitigation measures)). The Biosecurity Management Plan will include, but will not be limited to:

- protocols for the identification of priority weed species, mandatory reporting obligations and management of Emergency, Control and Biosecurity zones as per the NSW *Biosecurity Act 2015*
- weed management and monitoring requirements where relevant
- locations, timing, and methods for removing soil and plant matter from vehicles and machinery and sourcing clean soil and materials free of contaminants for construction work
- details around the use of clean down stations to stop the spread of weeds.

Conditions of approval are a matter for the Department of Planning, Housing and Infrastructure (DPHI) to consider during its assessment of the project.

6.2.8. Natural hazards

Issue raised

Snowy Valleys Council has concerns with respect to the provision of above-ground infrastructure and its proposed route locations within high-risk bushfire prone areas. Whilst it is understood that the proponent is required to manage vegetation in and around the project pathways, Snowy Valleys Council still has concerns with respect to the potential for bushfire risk as a result of fallen or damaged infrastructure that could lead to potential catastrophic fire events similar to those experienced in the Dunns Road fire in 2019/2020 fire season.

With significant portions of the LGA designated as bushfire prone and approximately half of the shire as both State and private sustainable forest plantations, Snowy Valleys Council requests that the proponent provides assurances to the community that the infrastructure poses no increased fire risk threats within Snowy Valleys and appropriate hazard reduction and risk assessments are employed to lower any such threat.

Response

Bushfire risk has been assessed in Chapter 19 (Hazards and risks) of the EIS, *Technical Report 13 – Bushfire Risk Assessment* of the EIS, Chapter 6 (Assessment of impacts) of the Amendment Report and *Technical Report 13 – Bushfire Risk Assessment Addendum* of the Amendment Report. The assessment considered the project's potential to impact and be impacted by bushfires.

Transgrid uses best-practice asset management and network safety management systems to reduce bushfire risk and potential impacts on local communities and the surrounding environment. About half of Transgrid's direct maintenance expenditure each year is dedicated to mitigating bushfire risk.

While overhead transmission infrastructure does carry a risk of fire ignition and bushfire risk, these risks decrease with larger distances between conductors and the ground. For all major projects, Transgrid's planning, design, construction and operation teams take bushfire risk into consideration at every stage.

Transgrid has a wide range of measures to address and further reduce the risk and likelihood of bushfires, including:

- Route selection:
 - Route selection follows a holistic approach where a number of factors have to be considered. This includes consideration of technical risks to the transmission network and the potential transmission line infrastructure, including from bushfires. While Transgrid aims to minimise the length of transmission lines through heavily timbered areas such as national parks and State forests, where feasible, this has been balanced with potential impacts to environment and community.
- Planning:
 - As part of the EIS, a bushfire risk assessment is undertaken if this is required by the SEARs. Bushfires can have serious consequences for communities and the natural environment. Mitigation measures have been identified for the detailed design, construction and operation stages of the project.

- Design:
 - If a failure or fault occurs on the transmission network, the protection systems are designed to detect issues/faults and switch off the power in a very short period (within milliseconds) to prevent further damage or dangers to the asset and public safety.
 - New transmission lines are built with a grounded shield wire along the top of the structure, above the conductors, to protect the line from lightning and safely dissipate any lightning strike energy to ground through an earthing system at each transmission line structure.
 - Hazard tree zones would be established to prevent trees of sufficient height falling and striking overhead conductors or the transmission line structures or come close enough to cause electrical flashover. The trees with potential to fall towards the line based on the trees at maximum operating line conditions require removal.
 - An easement clearing zone would be established for any vegetation along the transmission line which may intrude on the Vegetation Clearance Requirements at maximum line operating conditions (maximum conductor sag and sway) now or at any time in the future. This would include clearing and ongoing management of the vegetation.

Vegetation within the transmission line easement will be managed in accordance with Transgrid's existing vegetation management standards, consistent with the clearance requirements principle identified in *AS/NZS7000:2016 Overhead Line Design* as detailed in the *Humelink Vegetation Clearing Method and Memorandum (2023b)*.

6.2.9. Road asset infrastructure

Issue raised

Most of the local roads throughout the LGA have relatively low levels of traffic and are designed and maintained for this level of use. The condition of these roads will deteriorate quickly through heavy construction vehicle usage associated with the HumeLink project which will compromise road quality and safety and have a significant impact on Snowy Valleys Council's ability to maintain the roads with limited financial and resourcing capacity.

It is envisaged that Snowy Valleys Council will be required to allocate additional financial resources being considerably more on the maintenance of its local road network that is used by HumeLink construction traffic for the next four to five years. Snowy Valleys Council maintains that it should be compensated for the additional costs it incurs as a result of this development. Snowy Valleys Council also upholds that all roadworks should be undertaken in accordance with Snowy Valleys Council's Roads Management Policy.

Snowy Valleys Council recognises that it maintains its local roads network in a fit for purpose condition and that a detailed dilapidation report needs to be prepared by the proponent in collaboration with Snowy Valleys Council and is agreed upon by both parties prior to the project construction commencing. The Department should apply a condition to any proposed consent placing an obligation on the proponent to lodge with Snowy Valleys Council a security bond over all identified road networks associated with the project to ensure that any damage will be remedied within an appropriate timeframe at the cost of the proponent.

Council insists that should the development be granted approval; a condition of consent should be applied that places an obligation on the proponent to maintain and repair local roads throughout the construction phase to ensure the roads remain fit for purpose for all other road users.

The proponent should be required to undertake regular inspections and repairs throughout the construction phase not just at the completion of construction. As the roads authority, Snowy Valleys Council should have ultimate jurisdiction under the provisions of the *Roads Act 1993* and supported by conditions of development consent to direct that the proponent maintain the road to Council's standards in the event that the road should be damaged or be required to be repaired as a result of additional traffic loading.

In addition to the commitment to prepare a dilapidation report on the existing condition of the road surface, the report is required to include existing structural conditions of the pavement of local roads to be used by construction traffic. This must involve a geotechnical investigation at the pre-construction stage. The investigation shall also examine anticipated impacts during the construction phase and recommend mitigation measures that should be included as repair work commitments, in the proposed Traffic and Transport Management Plan (which Snowy Valleys Council notes should be a 'Construction Traffic Management Plan').

Response

Transgrid notes the concerns of Snowy Valleys Council. In accordance with the revised mitigation measure TT4 (refer to Appendix B (Updated mitigation measures)), prior to construction, road condition assessments will be carried out for all local roads to be used during construction. The surveys will assess the current condition of the road surface and will be documented in a road condition report, with a copy being provided to the relevant road authority. Road condition assessments will be undertaken during and following construction to assess the damage to roads accessed by project-related traffic. Damage caused by the project will be rectified or compensated for during or after construction in consultation with the relevant road authority.

For roads where Snowy Valleys Council is the relevant road authority, Snowy Valleys Council would be provided with a copy of the road condition report and consulted on any required rectification work.

The road condition surveys would be undertaken by an appropriately qualified engineer who would record and assess the surface conditions of the road network prior to the commencement of construction. A road condition report would document the survey, typically including photographs or video of the road surface condition. Geotechnical investigations are not required to be carried out as part of road condition surveys and would not be undertaken.

As stated in Chapter 20 (Traffic, transport and access) of the EIS, a TTMP would be implemented for the project to identify requirements for minimising traffic impacts during construction. The TTMP would form part of the Construction Environmental Management Plan (CEMP) and would be prepared in consultation with each relevant council and Transport for NSW (TfNSW) to identify the key management and response strategies to minimise potential delays and disruptions that may arise due to the project.

Transgrid and the construction contractors will continue to engage with Snowy Valleys Council to determine the specific road use and rectification requirements.

Issue raised

Snowy Valleys Council is of the view that necessary road upgrades that need to be undertaken, should be done so prior to the commencement of construction. These upgrades need to be approved by Snowy Valleys Council via a section 138 permit including submission of detailed design plans including pavement details, road geometry and drainage so that a proper assessment of the traffic impacts and flow-on effects

can be assessed. Such assessment will be made in relation to the broader context of Snowy Valleys Council's road network and ongoing maintenance obligations.

Response

Transgrid would use the existing road network as far as possible and upgrading of existing roads would be by exception only. Chapter 4 (Project description – construction) of the EIS included the potential for road upgrades associated with the construction of the project. Road upgrades could be required to facilitate access track connection to the existing road network or to facilitate safe vehicular access associated with the oversized and/or over mass (OSOM) vehicle movements during construction.

The extent and design of the road work would be confirmed during further detailed design and informed by road condition surveys (undertaken in accordance with revised mitigation measure TT4 (refer to Appendix B (Updated mitigation measures)), and confirmation of the OSOM haulage route by the construction contractors. Road upgrades required for the project would be carried out in accordance with the relevant Austroads Guides (where applicable), any road occupancy licence(s), and in consultation with the relevant road authority. Relevant Austroads Guides include (but may not be limited to):

- *Guide to Road Design* (Austroads, 2023)
- *Guide to Road Safety* (Austroads, 2021a)
- *Guide to Traffic Management* (Austroads, 2020)
- *Guide to Temporary Traffic Management* (Austroads, 2021b).

However, it should be noted that section 5.24(f) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) states that authorisation for consent under section 138 of the *Roads Act 1993* cannot be refused if it is necessary for carrying out approved State Significant Infrastructure and is to be substantially consistent with the approval under Division 5.2 of the EP&A Act. In addition, while Transgrid would require consent to undertake the work on classified roads, as a network operator under the *Electricity Supply Act 1995*, approval is not required from Snowy Valleys Council under section 138 of the *Roads Act 1993* to undertake work over unclassified roads (ie local roads), due to the application of section 5 of Schedule 2 of the *Roads Act 1993*.

Since the EIS was exhibited, ongoing design and construction methodology development has identified new access tracks or upgrades to existing access tracks to connect construction areas and the transmission line easement to the existing road network. Chapter 3 (Description of the amended project) and *Technical Report 16 – Revised Traffic and Transport Impact Assessment* of the Amendment Report provides further detail on new and upgraded access tracks and connection requirements. Chapter 20 (Traffic, transport and access) of the EIS describes how a TTMP would be implemented for the project to identify requirements for minimising traffic impacts during construction. The TTMP would form part of the CEMP and would be prepared in consultation with each relevant council and TfNSW to identify the key management and response strategies to minimise potential delays and disruptions that may arise due to construction of the project.

The road condition assessments referenced in revised mitigation measure TT4, would be undertaken prior to construction by an appropriately qualified engineer who would record and assess the surface conditions of the road network prior to the commencement of construction. A road condition report would document the survey, typically including photographs or video of the road surface condition. Geotechnical investigations are not required to be carried out as part of road condition surveys.

Issue raised

The Traffic and Transport Management Plan is to include a commitment that any damage caused by construction traffic movements during the construction phase shall be progressively repaired at no cost to Snowy Valleys Council. In addition, at the completion of works, a joint assessment between Snowy Valleys Council staff and the contractor be undertaken of the local roads used during construction to assess any damage caused by construction traffic.

Response

In acknowledgement of Snowy Valley Council's concerns and similar concerns raised by other local councils, mitigation measure TT4 has been revised as follows:

Prior to construction, condition assessments will be carried out for all local roads to be used during construction. The surveys will assess the current condition of the road surface and will be documented in a road condition report, with a copy being provided to the relevant road authority.

Road condition assessments will be undertaken during and following construction to assess the damage to roads accessed by project-related traffic. Damage caused by the project will be rectified or compensated for during or after construction in consultation with the relevant road authority.

For roads where Snowy Valleys Council is the relevant road authority, Snowy Valleys Council would be provided with a copy of the road condition report and consulted on any required rectification work.

Issue raised

The proponent shall be conditioned to provide a site map showing locations of proposed construction compounds and their accessways and any carparking areas that might be proposed for employee parking spaces. The proponent shall provide a commitment to remove the compounds and parking areas at the completion of construction and remediate these sites to their pre-construction condition.

Response

The indicative parking areas and access points at the construction compounds and worker accommodation facility proposed within the Snowy Valleys LGA are provided in Appendix A (Updated project description) of the Amendment Report. The facilities include:

- Maragle 500 kV substation compound (C05)
- Amended Honeysuckle Road compound (C07)
- Amended Memorial Avenue compound (C14)
- Ardrossan Headquarters Road compound (C17)
- Snubba Road compound (C18)
- Gadara Road compound (C19)
- Ellerslie Road compound (C21)
- Green Hills accommodation facility and compound (AC07).

The requirement to restore and/or rehabilitate the construction compound and worker accommodation facilities has been noted, and Transgrid has committed to undertaking demobilisation progressively throughout the project footprint as outlined in Chapter 4 (Project description – construction) of the EIS. Any construction areas that do not include permanent infrastructure and are outside of the APZ would be restored and/or rehabilitated (as applicable) as soon as practicable, consistent with the existing

surrounding landscape and any operational maintenance requirements. Where required, rehabilitation would be carried out in consultation with the affected landowners and with Snowy Valleys Councils, where relevant. The end state of construction compounds and worker accommodation facilities located on private property would be as agreed with the landowner.

Issue raised

Snowy Valleys Council is currently negotiating a 'Road Maintenance Agreement' with Transgrid for the Snowy 2.0 Transmission Connection project. A similar 'Road Maintenance Agreement' will need to be established for all the local roads impacted by the HumeLink project. This agreement specially deals with the condition and maintenance of Snowy Valleys Council roads utilised by the project, before during and after construction. The agreement must also cover the repair and make good of the construction compounds that are used by the proponent to facilitate all aspects of the construction of the project.

The agreement will ensure that Snowy Valleys Councils roads and ancillary areas used for construction are maintained during the construction period and handed back to Council after works are complete to Snowy Valleys Council's standards.

Response

Snowy Valleys Council's position is noted. Consultation with Snowy Valleys Council regarding the project and matters raised in its submission is ongoing. Transgrid will continue to work with Snowy Valleys Council to achieve a suitable outcome regarding this matter.

The Snowy 2.0 Transmission Connection Project road maintenance agreement is specific to the use of Tooma Road and Elliott Way. For the amended project, Transgrid would seek a different arrangement to support the implementation of revised mitigation measure TT4, whereby the road condition survey is captured pre-construction, at agreed intervals, and any rectification work is completed during the construction phase to ensure the pre-existing condition of the Snowy Valley Council's roads are maintained.

6.2.10. Communications assets

Issue raised

Snowy Valleys Council understands that the proposal is within 15 metres of Snowy Valleys Council's communications and broadcast tower at Mt Snubba in Batlow. This communications asset provides UHF communication for local government staff including communications during times of emergency, television and radio services to the Batlow region. The tower has recently been replaced following the 2019/2020 bushfires and Snowy Valleys Council advises that the proposed route could potentially reduce the catchment coverage area serviced by the critical radio and telecommunications services.

Response

The amended project includes realigning the route through Green Hills State Forest to the west of Batlow, as described in Chapter 3 (Description of the amended project) of the Amendment Report. As a result of this realignment, potential impacts on Snowy Valleys Council's communications and broadcast tower would be minimised by the amended project.

6.2.11. Local procurement considerations

Issue raised

Snowy Valleys Council suggests that a local supplier preference policy be developed by the proponent to assist in the provision of regional micro economy stimulus, through local procurement of trades, services and goods where possible. Snowy Valleys Council notes that any such policy should also ensure that 'boom bust' economic cycles are mitigated which can result due to short-term investment in upscaling of businesses where significant investment is made in broadening capacity to deal with heightened demand that will likely cause financial difficulty for business when the project construction is completed. Mitigation of such cycles can occur when demands for goods and services are spread across businesses throughout the region without the reliance on a limited number of suppliers.

Response

Transgrid and the construction contractors fully appreciate the need to find the balance between investing in local businesses and ensuring they do not contribute to a boom/ bust scenario once the project is complete.

Preparation of a Local Industry Participation Plan for the project is included as mitigation measure EC1 (refer to Appendix B (Updated mitigation measures)). The plan aims to optimise the participation of local and regional suppliers and contractors in the project supply chain, including indigenous businesses and women-owned businesses. The plan will support delivering the Australian Industry Participation Authority objectives and commitments outlined in the project-specific Australian Industry Participation Plan.

Transgrid has also been actively encouraging local businesses to sign up to the HumeLink Local Business Register, available on the project website to be shared with the construction contractors for the project. The register will serve as the first stop for procuring goods and services and sharing opportunities for local businesses.

6.2.12. Increased demand on local services

Issue raised

Snowy Valleys Council expects that the project will impose additional demands on already limited professional services within the town centres of Snowy Valleys LGA. Snowy Valleys Council currently has two professional medical services in Tumbarumba being Roths Corner and the Tumbarumba Medical Centre and three medical service providers in Tumut being the Fitzroy Medical Centre, Tumut Family Medical and Connection Medical. There is also one medical facility in the town centre of Adelong being the Adelong Medical Centre. The application needs to identify how these services will not be impacted as a result of the proposed workforce including contractors and subcontractors residing in the area.

Snowy Valleys Council requests the Department seeks information from the applicant on the provision and deployment of emergency services to its workforce particularly in the case existing services are either not available or could be potentially subjected to long wait times in terms of deployment of resources. Snowy Valleys Council expects that the subject development should not create any additional demands on services to the detriment of the Snowy Valleys community.

Response

Transgrid appreciates the concerns raised by Snowy Valley Council. Impacts on social infrastructure are discussed in Chapter 13 (Social) and *Technical Report 7 – Social Impact Assessment* of the EIS, and in Chapter 6 (Assessment of impacts) and *Technical Report 7 – Social Impact Assessment Addendum* of the Amendment Report. *Technical Report 7 – Social Impact Assessment Addendum* of the Amendment Report assessed the areas that may be impacted from a social infrastructure perspective due to the increase in demand by non-resident construction workers. Impacts include increased demand for hospital and emergency services during construction. It is likely that given the relatively short-term and transient nature of the construction program, many of the non-local workers would continue to seek general health advice from their existing GPs via telehealth or wait until they return home if they can. Consultation with ambulance and police services during the preparation of the EIS indicated that the construction of the project is not likely to have significant impacts on their service capacity.

For the amended project, Transgrid and the construction contractors will continue to consult with local health and emergency services to establish processes for managing potential increased demands due to the non-resident workforce.

Mitigation measures to manage the concerns raised by Snowy Valley Council include the following:

- providing construction workers with details on how to access health services, including dedicated telehealth services organised by Transgrid (mitigation measure SO2)
- implementing a Code of Conduct to minimise the incidence of risk drinking and drug behaviours (mitigation measure SO2)
- regularly updating emergency services on work plans and access routes in the event of an emergency (mitigation measure SO3).

6.3. Upper Lachlan Shire Council

Issue raised

Prior to the commencement of the transmission line, the local roads utilised within the Upper Lachlan Shire LGA shall be upgraded by the proponent where necessary, to accommodate the additional construction traffic. A dilapidation report of the roads shall also be prepared and include the existing structural conditions of the pavement of local roads to be used for construction traffic. The report shall include a geotechnical investigation at pre-construction stage and also examine anticipated impacts during the construction stage and mitigation measures that should be included in the proposed Traffic and Transport Management Plan.

Response

Transgrid would use the existing road network as far as possible and upgrading of existing roads would be by exception only. Chapter 4 (Project description – construction) of the EIS contemplated the potential for road upgrades associated with the construction of the project. Road upgrades could be required to facilitate access track connection to the existing road network or to facilitate safe vehicular access associated with OSOM vehicle movements during construction.

The extent and design of the road work would be confirmed as detailed design is finalised and informed by road condition surveys (undertaken in accordance with revised mitigation measure TT4), and confirmation of the OSOM haulage route by the construction contractors. Any road upgrades required for the construction of the project would be carried out in accordance with the relevant Austroads Guides (where

applicable), any road occupancy licence(s), and in consultation with the relevant road authority. Relevant Austroads Guides include (but may not be limited to):

- *Guide to Road Design* (Austroads, 2023)
- *Guide to Road Safety* (Austroads, 2021a)
- *Guide to Traffic Management* (Austroads, 2020)
- *Guide to Temporary Traffic Management* (Austroads, 2021b).

Since the EIS was exhibited, ongoing design and construction methodology development has identified new access tracks or upgrades to existing access tracks to connect construction areas and the transmission line easement to the existing road network. Chapter 3 (Description of the amended project) and *Technical Report 16 – Revised Traffic and Transport Impact Assessment* of the Addendum Report provides further detail on new and upgraded access tracks and connection requirements.

Chapter 20 (Traffic, transport and access) of the EIS describes how a TTMP would be implemented for the project to identify requirements for minimising traffic impacts during construction. The TTMP would form part of the CEMP and would be prepared in consultation with each relevant council and TfNSW to identify the key management and response strategies to minimise potential delays and disruptions that may arise due to construction of the project.

The road condition surveys referenced in revised mitigation measure TT4, would be undertaken by an appropriately qualified engineer who would record and assess the surface conditions of the road network prior to the commencement of construction. A road condition report would document the survey, typically including photographs or video of the road surface condition. Geotechnical investigations are not required to be carried out as part of road condition surveys and would not be undertaken.

Issue raised

The proponent shall maintain and repair the local roads throughout the construction period to Upper Lachlan Shire Council standard. The Traffic and Transport Management Plan shall include a commitment that any damage caused during the construction period shall be repaired at no cost to Upper Lachlan Shire Council. At the completion of construction, Upper Lachlan Shire Council and the contractor used during the construction of the local roads shall complete a joint assessment to assess any damage by construction traffic.

Response

In response to Upper Lachlan Shire Council's concerns and similar concerns raised by other local councils, Transgrid has revised mitigation measure TT4 to commit to undertaking road condition assessments during and following construction to assess the damage to roads accessed by project-related traffic. Damage caused by the project will be rectified or compensated for during or after construction in consultation with the relevant road authority. Refer to Appendix B (Updated mitigation measures) for revised mitigation measure TT4.

Issue raised

A site map shall be provided detailing the locations of the proposed construction compounds, access ways and parking areas. The proponent shall provide a commitment to remove the compounds and parking areas at the completion of construction and restore the site to their original condition.

Response

The indicative parking areas and access points to the construction compound and worker accommodation facility proposed within the Upper Lachlan Shire LGA are provided in Appendix A (Updated project description) of the Amendment Report. The facilities include:

- Amended Bannaby 500 kV substation compound (C12)
- Crookwell accommodation facility and compound (AC06).

The requirement to restore and/or rehabilitate the construction compounds and worker accommodation facility has been noted, and Transgrid has committed to undertaking demobilisation progressively throughout the project footprint as outlined in Chapter 4 (Project description – construction) of the EIS. Any construction areas that do not include permanent infrastructure and are outside of the APZ would be restored and/or rehabilitated (as applicable) as soon as practicable, consistent with the existing surrounding landscape and any operational maintenance requirements. Where appropriate, rehabilitation would be carried out in consultation with the affected landowners and with Upper Lachlan Shire Council, where relevant. The end state of construction compounds and worker accommodation facilities located on private property would be as agreed with the landowner.

Issue raised

The proponent shall provide specific and tailored measures to mitigate the visual impacts to all dwelling houses within the Upper Lachlan Shire LGA that will be impacted by the transmission line.

Response

Potential landscape character and visual amenity impacts of the project are assessed in *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS and presented in Chapter 14 (Landscape character and visual impact) of the EIS. The assessment of the amended project is included in *Technical Report 8 – Landscape Character and Visual Impact Assessment Addendum* of the Amendment Report. The assessment adopted a conservative approach and presents potential ‘worst-case’ impacts to sensitive receivers as the final location of the transmission line structures would only be confirmed during further detailed design.

Based on the findings of *Technical Report 8 – Landscape Character and Visual Impact Assessment Addendum* of the Amendment Report, 36 out of the 43 dwellings in the Upper Lachlan Shire LGA that were subject to a detailed assessment are expected to experience moderate or higher visual impact for which these residences would be subject to mitigation in accordance with revised mitigation measure LV5 (refer to Appendix B (Updated management measures)). Mitigation will include working in consultation with the affected landowner to determine practicable solutions to reduce impacts such as use of screening vegetation or other appropriate visual screening options. The remaining seven dwellings are expected to experience moderate-low or lower visual impact for which these residences would not be subject to mitigation in accordance with revised mitigation measure LV5 based off the applied landscape character impacts level matrix.

The threshold for mitigation is consistent with the approach used for other recent major transmission projects and the performance objectives presented in the *Draft Transmission Guideline – Technical Supplement for Landscape and Visual Impact Assessment* (DPE, 2023c).

Issue raised

The proponent shall establish a Community Enhancement Fund in accordance with the *Environmental Planning and Assessment Act 1979* based on an annual contribution, while ever the transmission line is operating, equal to one per cent of the capital cost, divided by the estimated operational life of 20 years.

Response

Transgrid acknowledges the request to establish a Community Enhancement Fund. While Transgrid is not able to provide funding to Council to administer, we plan to work closely with Upper Lachlan Shire Council to co-design and deliver community programs and projects in consultation with the project communities and stakeholders to provide a positive contribution and legacy. Among the projects and scopes being considered, and subject to the regulatory and Transgrid approval, are:

- regional telecommunications infrastructure – deployment of telecommunications infrastructure at defined and limited sites to improve connectivity in hard-to-reach regions to improve community connection and productivity
- exploring community investment opportunities to deliver community mental health training – to contribute to improving regional mental health services in areas impacted and associated with the development of electrical infrastructure
- cultural awareness training – to ensure the project team has the appropriate skills to engage with communities on the project impacts
- sponsorship of local business awards and events – to support the growth of local suppliers for current and future energy projects
- developing community investment opportunities such as repurposing project infrastructure for community benefit, (for example, repurposing of temporary worker accommodation buildings at the end of the project to provide affordable accommodation for the community), and initiatives to improve biodiversity outcomes (for example, through revegetation projects)
- a dedicated community investment fund for HumeLink Community Partnership Program grant scheme – an opportunity for small grants to support local community organisations.

Issue raised

The proponent shall accommodate its workers in the Upper Lachlan to support the local community.

Response

Transgrid notes the request to accommodate workers in the Upper Lachlan Shire LGA and acknowledges the concerns of various councils about the impact to housing availability, affordability and short-term accommodation being raised in previous project engagement. The engagement with Upper Lachlan Shire Council has been ongoing throughout the planning of the project.

As a result of stakeholder and community feedback on accommodation issues and further construction planning, there are changes proposed to the number and location of construction ancillary facilities for the project, including worker accommodation facilities and construction compounds. Five new worker accommodation facilities are proposed as part of the amended project (only one location at Tumbarumba was proposed and assessed in the EIS). The Crookwell accommodation facility and compound (AC06) is located within the Upper Lachlan Shire LGA.

The Crookwell accommodation facility and compound (AC06) is located off Graywood Siding Road, about 18.1 kilometres north of Goulburn, and has been strategically chosen to use existing construction areas used for current construction projects, allow easy access to the project footprint during construction while minimising traffic and worker movement impacts. The facility would have capacity to accommodate up to 300 workers during construction. Further detail on this accommodation facility is provided in Chapter 3 (Description of the amended project) of the Amendment Report, with consideration of its benefits and impacts included in Chapter 6 (Assessment of impacts) of the Amendment Report.

6.4. Wagga Wagga City Council

Issue raised

Rebuilding the two kilometres of Line 51 between the existing Wagga 330 kV substation and Ivy Road will block entrances to the Gregadoo Waste Management Centre. On an average year the Gregadoo Waste Management Centre will close for two days only (Christmas and Easter Friday). There are no alternate entries to Gregadoo Waste Management Centre and rebuilding and stringing will block access to the facility. Transgrid has not approached Wagga Wagga City Council on how these proposed works will be undertaken and sequenced with Council operations. Wagga Wagga City Council has not been approached by Transgrid for the proposed works at the Gregadoo Waste Management Centre.

The EIS needs to address how rebuilding works will not interfere with Wagga Wagga City Council operation at Gregadoo Waste Management Centre.

Response

Transgrid acknowledges the concern of Wagga Wagga City Council and has been engaging with Wagga Wagga City Council regarding the proposed Gugaa 500 kV substation as well as the potential impacts on the Gregadoo Waste Management Centre as part of the EnergyConnect (NSW – Eastern Section) and HumeLink projects, as documented in Chapter 2 (Engagement) of this Submissions Report, Chapter 6 (Engagement) of the EIS, and Chapter 5 (Engagement) of the Amendment Report.

Transgrid and its construction contractors will continue to consult Wagga Wagga City Council and work with Gregadoo Waste Management Centre representatives regarding the rebuild of Line 51, and to minimise and manage access issues. It is expected that access to the Gregadoo Waste Management Centre would only be restricted, and for short periods, while the construction contractors remove the existing conductors and transmission line structures and construct the new transmission line structures and string the new conductors. During all works, access to Gregadoo Waste Management Centre would be managed under temporary traffic control procedures in accordance with mitigation measure TT3 and alternative access arrangements to the Tip Shop would be agreed with Wagga Wagga City Council, if required. The timing of this work would be discussed with Wagga Wagga City Council and Gregadoo Waste Management Centre representatives, and work can be completed during standard construction hours or as out-of-hours work, if required.

It is also noted that the minor change to the transmission line corridor between Ashfords Road and Ivydale Road at this location has resulted in a 0.4 hectare reduction in the area of Gregadoo Waste Management Centre within the amended project footprint compared to the EIS project footprint (refer to Chapter 3 (Description of the amended project) of the Amendment Report for further detail).

Issue raised

In relation to maintenance activities, Wagga Wagga City Council strongly objects to the EIS authorising access to land outside the easement corridor as it reads like authorised trespass, bushfire risk needs to be quantified and elaborated upon for land outside the transmission line easement.

Response

The EIS, or project approval, does not authorise Transgrid to access any land that it does not have a property interest in. A registered easement gives Transgrid a legal right to access the easement corridor on that property, however Transgrid notifies landowners prior to accessing properties. Work outside the easement would be limited to the removal of hazard trees or use of access tracks (as agreed with the landowner). Chapter 3 (Project description – infrastructure and operation) of the EIS defines a hazard tree as a tree or part of a tree that, if it were to fall, would infringe on the vegetation clearance requirements at maximum conductor sag of the transmission lines. A hazard tree assessment would be carried out once per year as part of the LiDAR inspection of the transmission line in accordance with Transgrid's *Maintenance Plan – Easement and Access Tracks* (December, 2021). The hazard tree zone (HTZ) is defined and illustrated in Chapter 4 (Project description – construction) of the EIS. Any hazard tree removal outside of the transmission line easement would be undertaken in consultation or with notification to the relevant landowner in accordance with section 45 and section 48 of the *Electricity Supply Act 1995*.

Issue raised

Wagga Wagga City Council questions why access easements were not included in the compulsory or negotiated acquisition process. Wagga Wagga City Council requests confirmation as to whether landholders are being subject to another round of legal costs that they have to prefund before compensation determinations.

Wagga Wagga City Council believes it is an indication that project planning is not mature and rigorous given that access requirements have not been determined at this late stage of the project.

Response

The EIS was based on a concept design that provided indicative structure locations and high-level information around access requirements. Since the public exhibition of the EIS, there has been ongoing design and construction development by the construction contractors. The transmission line infrastructure is still subject to ongoing design refinement, with transmission line structure locations, and their associated access tracks, not yet finalised. As such, access easements have not been confirmed. The option deed offered to landowners removes the need for access easements to be acquired as it allows access for the purpose of construction across the property (the location of such access will be discussed with each landowner and recorded in the property management plan).

Where the negotiation of an option deed is not successful, Transgrid would consider acquiring an access track easement for construction through the compulsory acquisition process and the provisions of the *Land Acquisition (Just Terms Compensation) Act 1991*. Access track easements for construction would be acquired for a fixed term only.

Permanent access tracks will only be acquired during and after construction when Transgrid can accurately determine where they will be required. Where Transgrid needs to acquire an access easement permanently in order to access the transmission line easement after construction, the provisions of the *Land Acquisition (Just Terms Compensation) Act 1991* would apply, including the need to consult with the

landowner and pay for legal costs that are reasonably incurred. Wherever possible, Transgrid endeavours to reach agreement with individual landowners to determine the most appropriate and least impactful access route to accessing the easement. Descriptions within the EIS are considered appropriate for the project phase and are similar to other State Significant Infrastructure projects at an equivalent phase. Design and construction methodology development has been ongoing since the public exhibition of the EIS, including further consideration of access requirements. Chapter 3 (Description of the amended project) of the Amendment Report provides further detail on access tracks for construction and permanent use.

Issue raised

Work authorised without a CEMP is vague and broad ranging. Waterway crossing and establishment of accommodation facilities with sewer and stormwater management requirements appear to be pre-construction work under the definitions of the EIS.

The EIS should clearly articulate what activities are pre-construction and covered under other instruments other than the project CEMP. There is a mix of terminology of pre-construction and project footprint with defined activities. Clarity is required for authorities to assess the impact on key waterways and the environment.

Clarity and oversight are required on the proposed wastewater treatment process for construction compounds as accommodation facilities and construction compounds are pre-construction works not covered by any specific project plan, ie CEMP.

Regarding pre-construction work, there are multiple and ambiguous references of works and work types that may occur outside a considered and formal environmental impact assessment specific to the site and circumstance. It is suggested that definitions of works and when they can occur be clarified.

Response

Pre-construction work was described in Chapter 26 (Environmental Management) of the EIS as work that needs to be carried out before the start of the main construction work. Pre-construction work would be subject to an Enabling Works Management Plan (EWMP), Environmental Work Method Statements and Construction contractors' Environmental Management Systems. Further to Section 26.1 of the EIS, an EWMP has been prepared by the construction contractors and provided to DPHI for approval with the Amendment Report (as discussed in Section 4.3). The purpose of the EWMP is to provide further clarity around the types of pre-construction work required to be carried out before the start of the main construction work, provide further detail on how pre-construction works would be managed to minimise environmental and community impacts, and facilitate the early commencement of pre-construction work following project approval.

The Amendment Report provides further details on the work proposed to be carried out before approval of the CEMP, including additional details on the construction compounds and accommodation facilities and how potential impacts would be managed, including wastewater management.

A description of the typical construction activities for the amended project is included in Appendix A (Updated project description) of the Amendment Report.

Issue raised

Wagga Wagga City Council is concerned that the Gregadoo Waste Management Centre is not mentioned in the description of the key features of the Wagga 330 kV substation compound (C01), as it is located on the eastern side of the substation.

Response

The site description provided for each construction compound in Chapter 4 (Project description – construction) of the EIS is a general description of the immediate surroundings and sensitive receivers that the establishment and operation of the compound could impact. Work at the Wagga 330 kV substation and the construction compound is not expected to have any significant impacts on the waste management centre. Gregadoo Waste Management Centre is noted and considered in detail in the EIS where relevant, including Chapter 11 (Land Use and Property) and *Technical Report 5 – Land Use and Property Impact Assessment* of the EIS. The boundary of the Gregadoo Waste Management Centre is directly opposite the Wagga 330 kV substation compound (C01) south of Boiling Down Road.

Issue raised

Wagga Wagga City Council operates a Tip Shop which is less than 50 metres from the work zone. Wagga Wagga City Council, under the Environment Protection Licence, maintains groundwater bores, groundwater monitoring points and dust monitoring that are in the project footprint. Wagga Wagga City Council operations are not 700 metres to the west as per statements in the EIS, this is incorrect.

Response

Chapter 16 (Soils geology and contamination) of the EIS acknowledges that the project footprint passes through Gregadoo Waste Management Centre; however, waste activities are noted to be undertaken about 700 metres to the west of the project footprint.

Transgrid acknowledges that other Wagga Wagga City Council operations may also be located within the project footprint including the Tip Shop, which is located about 25 metres west of the project footprint. Although there may be some disruptions to access to the site from Ashfords Road during construction, this would be managed in accordance with a Traffic and Transport Management Plan, which would be prepared in consultation with Wagga Wagga City Council. Access to the Tip Shop would be maintained during construction. Transgrid will continue to consult with Wagga Wagga City Council during the preparation of the TTMP and ensure that the impacts on the Gregadoo Waste Management Centre are minimised and managed.

6.5. Yass Valley Council

Issue raised

Yass Valley Council opposes the use of above-ground transmission lines in favour of undergrounding power lines for the HumeLink project to protect the interests of farmers, landowners, volunteer fire fighting service personnel and the environment.

Response

Transgrid acknowledges Yass Valley Council's position on overhead transmission lines.

The parliamentary inquiry into the feasibility of undergrounding the transmission infrastructure for renewable energy projects, which was established on 22 June 2023 and concluded on 31 August 2023 that undergrounding HumeLink is not a feasible option. HumeLink is urgently required to avoid rolling blackouts and not jeopardise the supply of electricity to millions of Australians on the eastern seaboard. As such, Transgrid remains committed to HumeLink's completion in 2026. Further, the delays associated with undergrounding will result in a loss of up to \$1 billion in lower-cost renewables for consumers. Delays will also result in a slower retirement of fossil fuel assets. Given the cost-of-living pressures being experienced by consumers, this is particularly pertinent, and Transgrid is committed to doing everything it can to put downward pressure on customer bills. In addition, delays associated with undergrounding would have a significant impact on network security.

Further consideration of community and organisation concerns about the project involving overhead transmission lines instead of underground is provided in Chapter 7 (Response to community and organisation submissions).

Issue raised

Yass Valley Council requests the proponent undertake appropriate landscaping to mitigate the landscape impacts in the Murrumbidgee and Black Range to Yass landscape character areas due to the reduction of vegetation in these landscapes.

Response

Potential landscape character and visual amenity impacts of the project were assessed in Chapter 14 (Landscape character and visual amenity) and *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS.

The Murrumbidgee and Black Range to Yass landscape character areas are defined by undulating rural hills and ridges, relatively remote with many pastoral properties and a few local residences. The Murrumbidgee and Black Range to Yass landscape character areas are anticipated to have moderate – low landscape impacts during construction and operation.

Several mitigation measures have been proposed to manage potential landscape character and visual amenity impacts during construction and operation (refer to Appendix B (Updated mitigation measures)). The mitigation measures will seek to retain and protect vegetation and minimise landform changes, minimise light spill from temporary and permanent facilities, and provide visual screening or other options for residences where the project is predicted to have a moderate to high visual impact.

Issue raised

Yass Valley Council requests the proponent to undertake appropriate landscaping to mitigate the visual impacts, both during construction and operation, at the following viewpoints:

- south from Cooks Hill Road
- south-east from Childowla Road
- east of Burrinjuck Road
- east from the Hume Highway, Yass

- west from Black Range Road.

Response

The viewpoints identified by Yass Valley Council are included in *Technical Report 8 - Landscape Character and Visual Impact Assessment* of EIS as viewpoints 21, 16, 17, 18 and 19, respectively. These are public domain viewpoints and were selected to assess representative views of the project. Viewpoint 21 – south from Cooks Hill Road is expected to have a moderate visual impact, whereas viewpoints 16, 17 and 19 are expected to have a moderate-low visual impact. Viewpoint 18 – east from the Hume Highway, Yass is expected to have a low visual impact. These viewpoints were not subject to reassessment as part of the *Technical Report 8 – Landscape Character and Visual Impact Assessment Addendum* of the Amendment Report.

As stated in Section 9.2.3 of *Technical Report 8 - Landscape Character and Visual Impact Assessment* of EIS, screening vegetation would have a limited effect in mitigating the public domain visual impacts of the project due to the height of the structures and the time required for vegetation to be established. For Viewpoint 21, the magnitude of the impact was also associated with existing transmission lines, which would be seen in front of and adjacent to the proposed transmission line for the amended project. Having a similar structure spacing and aligning the project footprint parallel to the existing lines would assist in the absorption of the project into views without creating a visually jarring or overdeveloped visual effect.

Issue raised

Specific measures are to be tailored and installed by the proponent for each of the 15 dwellings in Yass Valley impacted by the transmission line to mitigate visual impacts.

Response

Potential landscape character and visual amenity impacts of the project were assessed in Chapter 14 (Landscape character and visual amenity) and *Technical Report 8 - Landscape Character and Visual Impact Assessment* of EIS. The assessment of the amended project is included in *Technical Report 8 – Landscape Character and Visual Impact Assessment Addendum* of the Amendment Report. The assessment adopted a conservative approach and presents potential ‘worst-case’ impacts to sensitive receivers as the final location of the transmission line structures would only be confirmed during further detailed design.

Based on the findings of the landscape character and visual amenity impact assessment for the amended project, 11 out of the 13 dwellings in the Yass Valley LGA that were subject to a detailed assessment are expected to experience moderate or higher visual impact, for which these residences would be subject to mitigation in accordance with revised mitigation measure LV5 (refer to Appendix B (Updated management measures)). Mitigation will include working in consultation with the affected landowner to determine practicable solutions such as the use of screening vegetation or other appropriate visual screening options to reduce impacts. The remaining two dwellings are expected to experience moderate-low visual impact and therefore do not require mitigation in accordance with revised mitigation measure LV5 based off the applied landscape character impacts levels matrix.

The threshold for mitigation is consistent with the approach used for other recent major transmission projects and the performance objectives presented in the *Draft Transmission Guideline – Technical Supplement for Landscape and Visual Impact Assessment* (DPE, 2023c).

Issue raised

Yass Valley Council requests the proponent invests in new accommodation for workers in Yass Valley due to the lack of short-term accommodation.

Response

Transgrid notes the request to accommodate workers in the Yass Valley LGA and acknowledges the concerns of various councils about the impacts to housing availability, affordability and short-term accommodation being raised in previous project engagement. Transgrid engagement with Yass Valley Council has been ongoing throughout the planning stages of the project.

As a result of stakeholder and community feedback on accommodation issues and further construction planning, there are changes proposed to the number and location of construction ancillary facilities for the project, including worker accommodation facilities and construction compounds. Five new worker accommodation facilities are proposed as part of the amended project (only one location at Tumberumba was proposed and assessed in the EIS). The proposed Yass accommodation facility and compound (AC05) is located within the Yass Valley LGA.

The Yass accommodation facility and compound (AC05) is located on Faulder Avenue on the north-western outskirts of the town of Yass. The accommodation facility and compound is located in an area of agricultural land and land classified for manufacturing, industrial and utility land uses. The facility and compound would accommodate up to 300 workers. Further detail on this accommodation facility is provided in Chapter 3 (Description of the amended project) of the Amendment Report, with consideration of its benefits and impacts included in Chapter 6 (Assessment of impacts) of the Amendment Report.

Issue raised

The 21 local roads in Yass Valley are required to be upgraded by the proponent where necessary to be fit for purpose to accommodate the additional construction traffic prior to the commencement of the transmission line construction. In addition to the commitment to prepare a dilapidation report on the condition of the road surface, the report is required to include existing structural conditions of the pavement of local roads to be used by construction traffic. This shall involve a geotechnical investigation at the pre-construction stage. The investigation shall also examine anticipated impacts during the construction phase and recommend mitigation measures that should be included as repair work commitments, in the proposed Traffic and Transport Management Plan (which should be more like a “Construction Traffic Management Plan”).

Response

Transgrid would use the existing road network as far as possible. Chapter 4 (Project description – construction) of the EIS contemplated the potential for road upgrades associated with the construction of the project. Road upgrades could be required to facilitate access track connection to the existing road network or to facilitate safe vehicular access associated with OSOM vehicle movements during construction. The extent and design of the road work would be confirmed during detailed design finalisation and informed by road condition surveys (undertaken in accordance with revised mitigation measure TT4) and confirmation of the OSOM haulage route by the construction contractors.

Where required, road upgrades for the project would be carried out in accordance with the relevant Austroads Guides (where applicable), any road occupancy licence(s), and in consultation with the relevant road authority. Relevant Austroads Guides include (but may not be limited to):

- *Guide to Road Design* (Austroads, 2023)
- *Guide to Road Safety* (Austroads, 2021a)
- *Guide to Traffic Management* (Austroads, 2020)
- *Guide to Temporary Traffic Management* (Austroads, 2021b).

Since the EIS was exhibited, ongoing design and construction methodology development has identified new access tracks or upgrades to existing access tracks to connect construction areas and the transmission line easement to the existing road network. Chapter 3 (Description of the amended project) and *Technical Report 16 – Revised Traffic and Transport Impact Assessment* of the Amendment Report provides further detail on new and upgraded access tracks and road connection requirements.

As stated in Chapter 20 (Traffic, transport and access) of the EIS, a TTMP would be implemented for the project to identify requirements for minimising traffic impacts during construction. The TTMP would form part of the CEMP and would be prepared in consultation with each relevant council and TfNSW to identify the key management and response strategies to minimise potential delays and disruptions that may arise due to the construction of the project.

The road condition surveys and condition assessments referenced in revised mitigation measure TT4, would be undertaken by an appropriately qualified engineer who would record and assess the surface conditions of the road network prior to the commencement of construction. A road condition report would document the survey, typically including photographs or video of the road surface condition. Geotechnical investigations are not required to be carried out as part of road condition surveys.

Issue raised

Yass Valley Council requests the proponent to maintain and repair local roads throughout the construction phase to the appropriate Council standard. The Traffic and Transport Management Plan to include a commitment that any damage caused by construction traffic movements during the construction phase shall be progressively repaired at no cost to Yass Valley Council. In addition, at the completion of construction, a joint assessment between Yass Valley Council staff and the contractor of the local roads used during construction to be undertaken to assess any damage by construction traffic.

Response

In acknowledgement of Yass Valley Council's concerns and similar concerns raised by other local councils, mitigation measure TT4 has been revised to commit to undertaking road condition assessments during and following construction to assess the damage to roads accessed by project-related traffic. Damage caused by the project will be rectified or compensated for during or after construction in consultation with the relevant road authority. Refer to Appendix B (Updated mitigation measures) for revised mitigation measure TT4.

Issue raised

Yass Valley Council requests the proponent is required to provide a site map showing locations of proposed construction compounds and their accessways and any carparking areas that might be proposed for employee parking spaces. The proponent shall provide a commitment to remove the compounds and parking areas at the completion of construction and restore the sites to their original conditions.

Response

The indicative area and access points to the construction compounds and worker accommodation facility proposed for Yass Valley LGA are provided in Appendix A (Updated project description) of the Amendment Report. The facilities include:

- Yass substation compound (C10)
- Yass accommodation facility and compound (AC05).

The requirement to restore and/or rehabilitate the construction compounds and worker accommodation facility has been noted, and Transgrid has committed to undertaking demobilisation progressively throughout the project footprint as outlined in Chapter 4 (Project description – construction) of the EIS. Any construction areas that do not include permanent infrastructure and are outside of the APZ would be restored and/or rehabilitated (as applicable) as soon as practicable, consistent with the existing surrounding landscape and any operational maintenance requirements. Where required, rehabilitation would be carried out in consultation with the affected landowners and with Yass Valley Council where relevant. The end state for construction compounds and worker accommodation facilities located on private property would be as agreed with the landowner.

Issue raised

A Community Enhancement Fund should be established by the proponent in accordance with Yass Valley Council's policy based on an annual contribution, while the transmission line is operating, equal to one per cent of the capital cost divided by the estimated operational life of 20 years

Response

Transgrid acknowledges the request to establish a Community Enhancement Fund. Transgrid is not able to provide funding to Council to administer, however we plan to work closely with Yass Valley Council for the project. Transgrid is committed to co-design and deliver community programs and projects in consultation with the project communities and stakeholder to provide a positive contribution and legacy. Among the projects and scopes being considered, and subject to the regulatory and Transgrid approval, are:

- regional telecommunications infrastructure – deployment of telecommunications infrastructure at defined and limited sites to improve connectivity in hard-to-reach regions to improve community connection and productivity.
- exploring community investment opportunities to deliver community mental health training – to contribute to improving regional mental health services in areas impacted and associated with the development of electrical infrastructure
- cultural awareness training – to ensure the project team has the appropriate skills to engage with communities on the project impacts.
- sponsorship of local business awards and events – to support the growth of local suppliers for current and future energy projects
- developing community investment opportunities such as of repurposing project infrastructure for community benefit (for example, repurposing of temporary worker accommodation buildings at the end of the project to provide affordable accommodation for the community), and initiatives to improve biodiversity outcomes (for example, through revegetation projects)
- a dedicated community investment fund for HumeLink Community Partnership Program grant scheme – an opportunity for small grants to support local community organisations.

Issue raised

Yass Valley Council advises DPE that the length of the public exhibition for a major project has not taken into account the complexity of the project and the extent of the documentation for laypersons impacted by the proposal.

Response

Transgrid acknowledges Yass Valley Council's comment. Under Clause 12, Schedule 1 of the EP&A Act, the statutory duration for the public exhibition period for an EIS is 28 (calendar) days. The Planning Secretary of DPHI determines the timing and duration of public exhibition periods for an EIS. For the HumeLink project, the EIS was placed on public exhibition on 30 August 2023 and was initially scheduled to close on 26 September 2023. However, following stakeholder feedback, DPHI extended the exhibition closing date to 10 October 2023. This equated to a total exhibition period of 42 days to allow additional time for the community to review the EIS documents.

Issue raised

Yass Valley Council advises DPE that a local forum should be held in Yass to allow local residents to clarify their concerns and seek response from DPE and the proponent.

Yass Valley Council advises DPE that a public hearing should be held in Yass to provide the opportunity for local residents to raise their concerns.

Response

During the public exhibition period of the EIS, a comprehensive community consultation and engagement program was carried out throughout the entire project footprint to notify local communities, councils and stakeholders that the EIS was on exhibition, provide accessible information, encourage submissions, and gather feedback. Transgrid undertook three community information sessions and one Community Consultative Group information session within the Yass Valley LGA during this period (refer to Chapter 2 (Engagement)). Information on the EIS was also made available at Yass Valley Library.

Consultation activities continued throughout the development of the Amendment Report (refer to Chapter 5 (Engagement) of the Amendment Report) and the construction contractors will continue to engage with communities and stakeholders throughout the construction stage. Transgrid is also happy to work with Yass Valley Council on additional consultation opportunities in the Yass Valley LGA.

Contact details of the DPHI project officer are published on the DPHI Major Project Portal and the public can contact DPHI at any time during the consideration of the project.

Issue raised

Yass Valley Council intend to meet with neighbouring councils to investigate forming a coalition to continue to fight for undergrounding HumeLink.

Response

Yass Valley Council's position is noted. A response to undergrounding the transmission lines is provided above and on the HumeLink website, where Transgrid has released an underground report, which can be accessed via <https://www.transgrid.com.au/projects-innovation/humelink>.

6.6. Canberra Region Joint Organisation

Canberra Region Joint Organisation (CRJO) provided a response to the public exhibition of the EIS dated 25 October 2023. CRJO requested several issues that DPHI needed to consider, consistent with the Yass Valley Council submission. Responses to those issues are provided in Section 6.5.

Issue raised

At the meeting of the CRJO on 22 September 2023 it was unanimously resolved that the Canberra CRJO opposes the current HumeLink proposal. CRJO are aware that the submission period has closed but the Mayors of the CRJO wish DPE to understand that it strongly supports the submissions of its member councils who are adversely affected by this proposal.

Response

CRJO's position towards the project is noted. Transgrid appreciates that CRJO advocates for the councils of Yass Valley, Goulburn Mulwaree, Upper Lachlan Shire, Wagga Wagga City, and Snowy Valleys, amongst others. Sections 6.5, 6.1, 6.3, 6.4 and 6.2 include responses to submissions provided by these councils. It is noted that only Wagga Wagga City Council objected to the project.

7. Response to community and organisation submissions

This chapter provides a summary of the issues raised by the community and organisations and provides a response to these issues. As described in Chapter 3 (Analysis of submissions), the issues the community and organisations raised were summarised and grouped according to the identified key issues and sub-issues. Responses are provided according to these categories. A submissions register is provided in Appendix A (Submissions register). The register identifies the submitter's unique ID number and where the issues raised in their submissions are addressed.

7.1. The project

7.1.1. Construction compounds

Submitter ID numbers

S-63229469

Summary of issues raised

One submitter raised concerns about the siting of construction compounds, and how the Environmental Impact Statement (EIS) can proceed without finalisation of the details and locations of the construction compounds. The submitter commented that:

- rumours were heard that Transgrid had been asking unaffected landowners about other construction compounds and they queried how the EIS can be published without finalising the construction compound locations
- the EIS stated that construction compounds should be within two kilometres of the transmission lines, however the Snowy Mountains, Memorial Avenue and Snubba Road construction compounds are all further than two kilometres.

Response

Section 2.6.4.1 of the EIS outlines several criteria considered when deciding on construction compound locations including property, community and stakeholder, environmental impact and constructability criteria. Distance from the transmission line corridor was one of the factors considered in identifying potential construction compound locations, with a preference for locations within two kilometres of the transmission line corridor. Some compounds more than two kilometres from the transmission line corridor were progressed as they ranked favourably in terms of other criteria. Transgrid must reach a commercial agreement with the landowner to establish a construction compound. Some construction compound locations outlined in the EIS were subject to securing lease arrangements, which was not always possible to obtain and therefore, alternative options that were further away were considered.

Following public exhibition of the EIS, changes have been made to the number and location of construction compounds due to consultation with councils and landowners, changes to the project footprint, and further construction planning. These new and amended construction compounds have been discussed in further detail and assessed in Chapter 3 (Description of the amended project) and Chapter 6 (Assessment of impacts) of the Amendment Report. Implementing mitigation measures detailed in Appendix B (Updated mitigation measures) will continue to manage potential impacts during establishment, operation and decommissioning of the construction compounds.

7.1.2. Construction program

Submitter ID numbers

S-63219970, S-63250210, S-63249225

Summary of issues raised

Submitters raised concerns about the construction program for HumeLink. Specific comments included:

- the project should be delayed to align with the commissioning of Snowy 2.0
- the timing for operation is inconsistent with the optimal timing of the project identified by AEMO in the 2022 ISP where under various market scenarios, the timing ranges between 2028-29 to 2035-36
- the 2026 completion date is unrealistic, particularly given the lack of social licence and limited resources.

Response

The Australian Energy Market Operator (AEMO) has identified HumeLink as a priority project that is critical in bringing more affordable, reliable and renewable energy to the grid. HumeLink would reduce the risk of supply scarcity for NSW consumers by improving access to stored energy from across the entire Snowy scheme, renewable energy from southern NSW and energy from South Australia (via Project EnergyConnect) and Victoria (via Victoria to New South Wales Interconnector (VNI) and VNI West projects) and is not reliant on Snowy 2.0 being operational.

The potential delay of the commissioning of Snowy 2.0 places even more importance on the need for network security and stability and the timely completion of the HumeLink project to connect to other stored energy sources. HumeLink would also provide greater network resilience if other generation, storage and transmission projects were delayed.

The *2022 Integrated System Plan* (AEMO, 2022) has indicated HumeLink is the only actionable project that can be operational within the critical timeframe to secure the network before the coal-fired generators are decommissioned between 2026 and 2028. Delay in completion of HumeLink would put the stability of the network at risk, therefore the 2026 completion date is of high priority.

Since the EIS public exhibition, the draft *2024 Integrated System Plan* (2024 ISP) has been released providing slightly updated timing and staging for HumeLink compared to the 2022 ISP. The Draft 2024 ISP states that the northern circuit of HumeLink (Wagga Wagga to Bannaby) is targeted to be operational by mid-2026 and the southern circuit of HumeLink (connecting to Maragle) is targeted to be operational by late 2026 (AEMO, 2024). The Draft 2024 ISP also confirms the role of HumeLink in providing the National Electricity Market (NEM) better access to energy storage assets that can “mitigate renewable droughts and balance energy across seasons”. Furthermore, if HumeLink is not delivered on time, more long-duration storage than otherwise anticipated under the *NSW Electricity Infrastructure Roadmap 2020* (DPIE, 2020b) (as detailed in Section 2.3.3 of the EIS) and/or additional gas-fired generation would be needed to maintain the reliability of the power system in NSW (AEMO, 2022).

7.1.3. Operation and maintenance

Submitter ID numbers

S-63271456, S-63190218, S-62976708, S-63250997, S-63190240, S-63196979

Summary of issues raised

Submitters raised concerns in relation to the operation and maintenance of the project. Specific comments included:

- overhead transmission lines require regular and ongoing maintenance to remain safe
- based on landowner experience with Transgrid and their practices in maintaining vegetation clearance within existing transmission line easements, it is believed that the vegetation management program and plan proposed will not be effective in maintaining vegetation to the required standard during operation of the project
- the project has not considered the costs for ongoing maintenance of the transmission line structures over the expected lifespan of the infrastructure and instead only focuses on upfront build costs
- why the 4.3 metre height restriction for equipment under the transmission lines is acceptable when Victorian farmers have a 3-metre clearance height restriction
- how Transgrid proposes to access the transmission line structures for maintenance given the challenging terrain in some parts of the project footprint.

Response

Maintenance activities would be undertaken regularly for all project infrastructure components during operation in compliance with Transgrid's safety rules, operation and maintenance procedures (refer to Section 3.6 of the EIS), which form part of Transgrid's existing environmental management system (EMS) that is accredited to the international standard ISO 14001 requirements. As part of this, vegetation clearance would be carried out as part of the regular maintenance activities of the transmission lines to ensure vegetation clearance requirements and asset protection zones (APZs) for substations are maintained. This would include vegetation management within the transmission line easement to maintain appropriate clearances between ground vegetation and transmission lines, as well as management of trees outside of the easement which pose a potential risk to transmission lines.

Ongoing maintenance costs, including costs associated with vegetation management, are funded through regulated revenue, which is governed by Chapter 6A of the National Electricity Rules and overseen by the Australian Energy Regulator. Transgrid estimates the costs of vegetation management on a holistic basis across its entire asset base and submits these costs to the Australian Energy Regulator for determination as part of the 5-yearly revenue reset process set out in the National Electricity Rules.

The 4.3 metre height restriction for agricultural machinery is outlined in Transgrid's *Easement Guidelines - Living and working with electricity transmission lines*. These guidelines are not specific to HumeLink and have been determined in line with Transgrid's safety and clearance requirements.

As outlined in Chapter 3 (Project description – infrastructure and operation) of the EIS, permanent access tracks would be designed and maintained where required to ensure the track is suitable for subsequent use by vehicles during future maintenance activities (mainly long wheel-base 4WD vehicles).

7.1.4. Substations

Submitter ID numbers

S-63194462, S-63233458

Summary of issues raised

Submitters raised concerns about the design of the proposed Gugaa 500 kV substation, with specific comments including:

- the area required for the proposed Gugaa 500 kV substation appears larger than necessary for the infrastructure described in the EIS and queries what is proposed for the area that does not include infrastructure
- there is no mention of synchronous condensers in the proposed Gugaa 500 kV substation design
- the proposed Gugaa 500 kV substation location appears incorrect and wasted as there is no AEMO plan for connection of high load renewable generators to it and suggests a new substation should instead be at the existing Wagga 330 kV substation or at Uranquinty next to a gas-fired power station
- Transgrid employees stated in a meeting on 20 September 2023 that the substation (proposed Gugaa 500 kV substation) may move closer to Livingstone Gully Road to minimise noise impacts
- the proposed Gugaa 500 kV substation should be surrounded by strategically placed tree lines to reduce its visual impact and maintain a minimum 200 metre buffer from Livingstone Gully Road to keep it within hills and rises that provide natural noise and visual shielding.

Response

The area for the proposed Gugaa 500 kV substation includes a buffer area around the bench (that contains the substation infrastructure) to include an asset protection zone, stormwater, drainage, oil containment infrastructure, wastewater infrastructure, access and parking. In addition, a larger area would be acquired surrounding the proposed Gugaa 500 kV substation than is necessary for the current project infrastructure as a result of property negotiations and to allow for any refinement during further detailed design or future upgrades required. As per the EIS design, the operational substation infrastructure for the proposed Gugaa 500 kV substation would occupy approximately 22 hectares out of the 80.70 hectares that was proposed to be acquired. However, since the public exhibition of the EIS, the design and property discussions for the proposed Gugaa 500 kV substation have progressed and identified more land would be required to accommodate a split substation bench design and additional infrastructure associated with the integration of the proposed VNI West project with HumeLink (refer to Chapter 3 (Description of the amended project) of the Amendment Report). As a result, in the amended project, the operational substation infrastructure would occupy approximately 34 hectares out of 103.49 hectares of land that is proposed to be acquired.

Synchronous condensers are not required at the proposed Gugaa 500 kV substation. Chapter 3 (Description of the amended project) of the Amendment Report describes the refined substation design for the amended project.

As identified in the Regulatory Investment Test for Transmission (RIT-T), the preferred technical option for HumeLink was identified to require a 500 kV connection point in the Wagga Wagga area. The existing Wagga 330 kV substation at Gregadoo does not have sufficient space for new 500 kV substation infrastructure to connect to the HumeLink 500 kV transmission lines. Accordingly, a new 500/330 kV substation was identified to be required, which would have the capability to connect to 330 kV and 500 kV transmission lines. Section 2.6.3 of the EIS provides a summary of the key steps and processes in the

selection of the new substation location, and how the proposed Gugaa 500 kV substation location responds to the identified needs, constraints and opportunities.

Since the public exhibition of the EIS and further design development, the proposed layout and location of the proposed Gugaa 500 kV substation have been increased and adjusted closer to Livingstone Gully Road. The refinement results in several benefits compared to the EIS project, including reduced earthworks, increasing separation distance to the closest sensitive receiver, and improved constructability. The refinement would also provide the opportunity to reduce potential cumulative impacts at this location with less work required to facilitate the proposed VNI West project integration work.

The amended project also includes installation of additional substation equipment at the proposed Gugaa 500 kV substation. *Technical Report 9 – Noise and Vibration Impact Assessment Addendum* of the Amendment Report has been prepared to assess the potential noise and vibration impacts from the amended project, which found that an increase in noise is predicted during operation of the proposed Gugaa 500 kV substation compared to the EIS design. However, design measures would be included in the final substation design to reduce noise levels predicted to be experienced at nearby sensitive receivers to acceptable levels.

The proposed Gugaa 500 kV substation, including the proposed design refinements, has also been assessed in *Technical Report 8 – Landscape Character and Visual Impact Assessment Addendum* of the Amendment Report. The assessment concluded that there would be likely increased visual impacts in the vicinity of the proposed Gugaa 500 kV substation, due to the revised location and slight expansion of this facility. While the use of landscape plantings was considered to minimise potential visual impacts, it was determined that this was not practical due to operational vegetation management requirements and work associated with integrating the VNI West project. As such, affected landowners will be considered for alternative mitigation in accordance with revised mitigation measure LV5, consistent with the approach in the EIS (refer to Appendix B (Updated mitigation measures)).

7.1.5. Transmission line design

Submitter ID numbers

S-63219970, S-63233458

Summary of issues raised

Submitters commented on the transmission line planning and its scope, including:

- a request for more information on the Green Hills corridor amendment, including an updated impact area on State forests, the loss of carbon storage and the new length of the project
- a request for more details on the current and future 10-year spare transmission capacity between Wagga Wagga and Bannaby (excluding Snowy 2.0)
- that the project scope has not considered the removal of existing nearby transmission lines that may no longer be required due to HumeLink and suggests the existing lines be removed to reduce impacts and cost of the project.

Response

A separate Amendment Report has been prepared to describe and assess the proposed amendments and refinements, including the impacts of the Green Hills corridor amendment. The amended project footprint, which includes the Green Hills corridor amendment, includes approximately 1,728 hectares of land used for forestry. This area is around 639 hectares more than the amount of forestry land within the EIS project

footprint. The loss of carbon storage has not been directly quantified for the project⁵. The amended project has increased in length from 360 kilometres to 365 kilometres due to the Green Hills corridor amendment as well as other minor transmission line corridor changes. Chapter 3 (Description of the amended project) and Chapter 6 (Assessment of impacts) of the Amendment Report provides further details on the Green Hills corridor amendment and the impacts of the amended project.

HumeLink is designed to operate safely at capacity during peak loads when Snowy 2.0 is operational. The section of the project from Wagga Wagga to Bannaby is designed to transmit energy from southern NSW to major load centres within NSW (Sydney, Wollongong and Newcastle). It is expected that HumeLink would reach capacity once the renewable energy zones (REZs) are developed and connected, and therefore no spare transmission capacity is expected.

The AEMO 2022 ISP has identified HumeLink as a priority 'actionable' project that is required to support the expansion of renewable energy generation and the transition to low-emission energy generation sources. HumeLink would supplement the existing transmission network and other surrounding transmission projects to increase transmission capacity and reliability through the strategic placement of large-scale transmission lines. The existing transmission lines within the area would still provide a function within the expanded transmission network.

Submitter ID numbers

S-62866208, S-63194231, S-63277212, S-63253974, S-62963726, S-63250210

Summary of issues raised

Submitters raised concerns about the design of the transmission line, including the structural integrity and height of transmission line structures and its impact on grid resilience, including:

- the structural integrity, materials and resilience of the design chosen for the transmission line structures (including the double-circuit transmission line structure design), especially in the occurrence of a natural disaster and vandalism, or security risks such as cyber-attacks
- the height of the transmission line structures, which will be greater than the maximum of 76 metres as stated in the EIS, especially with varying topography across the project
- the project would result in a more vulnerable grid as the new 500 kV transmission lines would parallel existing 330 kV transmission lines in high-risk bushfire prone areas.

Response

Appropriate transmission line structure design for the project is required to limit the consequential damage in the event of a structural failure and particularly to reduce the risk of cascade failures within the transmission network. *AS/NZS 7000:2016 Overhead line design* provides minimum requirements for security loads. Failure containment of broken conductors must be considered. For interconnectors like HumeLink, which are critical lines, additional structure security can be provided through:

- increasing structure strength (reliability)
- using termination (stop) structures at regular intervals.

⁵ The loss of carbon storage associated with emissions from land clearing was not considered in the emissions inventory presented for the EIS or Amendment Report. A robust estimate of these emissions would require detailed information on the areas to be cleared, including details on the types and conditions of vegetation within those areas. Such information is not available and any estimates based on the high level of information would have a very high level of uncertainty.

Network reliability is a performance measure dependent on outage duration, frequency of outages, system availability and response times. In addition to providing structure security, all transmission line designs aim to maximise network reliability through all aspects of construction, operation and maintenance. The transmission line designs for HumeLink demonstrate consideration for all possible impacts on network security including the following:

- quality and workmanship of components and materials
- environmental impacts (lightning, bushfire, wind, flood, pollution, wildlife, etc)
- human impacts (vandalism, vehicle impact, firearm damage)
- operational and maintenance requirements in line with Transgrid's existing practices.

The use of steel in the design and manufacturing of the transmission line structures will be as per *Transmission Line Design Standard - Major New Build Rev 2.0* (Transgrid, 2023c) and *AS/NZS7000 Overhead Line Design* and would be subject to a destructive testing process.

The PACR identified a double circuit configuration as the most cost-effective option that meets network resilience and ISP requirements. As stated in Section 3.3.3 of the EIS, the free-standing transmission line structures would range between 50 metres up to 76 metres in height (from ground level), with an average height of 60 metres. As further detailed design progresses, there may be select circumstances or locations identified where the height of the transmission line structures may increase above 76 metres. This could be to minimise biodiversity, heritage or property impacts, or improve overall safety outcomes by providing the opportunity to increase the spanning distance between transmission line structures. Any structures that exceed 76 metres in height would be managed in accordance with the change management process described in Section 26.4 of the EIS in consultation with affected landowners.

7.1.6. Other project aspects

Submitter ID numbers

S-63246464, S-63252728

Summary of issues raised

Submitters raised concerns about the other activities relevant to the project. Specific comments included:

- whether there is a decommissioning plan for the project
- the justification of the telecommunications hut at Killimicat and request further information including impacted properties.

Response

As stated in Chapter 26 (Environmental Management) of the EIS, maintenance activities would be undertaken regularly for all project infrastructure components and plant items. Components would be replaced or refurbished towards the end of their serviceable life, allowing the service life of the infrastructure to be maximised. At the point in the future when project infrastructure is required to be decommissioned, it would be recycled, reused or disposed of appropriately in accordance with Transgrid's environmental management system (refer to Section 3.6 of the EIS). Restoration or rehabilitation (as applicable) and revegetation of decommissioned operational areas would be consistent with the existing land use or as otherwise agreed with the relevant landowners, where possible. Engagement with relevant stakeholders during decommissioning would be carried out in accordance with Transgrid's operational procedures and guidelines.

As discussed in Chapter 4 (Actions taken since public exhibition), the amended project includes additional telecommunications connections to existing Transgrid substations, including connections to Gadara 132 kV substation, Gullen Range 330 kV substation and Crookwell 2 330 kV substation. As a result of the additional connections, the telecommunications hut at Killimicat is no longer required for the project. Further details and assessment of the additional telecommunications connections are provided in Chapter 3 (Description of the amended project) and Chapter 6 (Assessment of impacts) of the Amendment Report respectively.

7.2. Alternatives and options

7.2.1. Undergrounding

Submitter ID numbers

S-62401209, S-63131973, S-63179462, S-63189960, S-63222221, S-63249463, S-62653707, S-63274709, S-63274706, S-63252732, S-63252749, S-63266979, S-63270717, S-63273461, S-62688709, S-63267457, S-63269210, S-63269216, S-62774492, S-63236736, S-63105473, S-63065456, S-63229475, S-62977986, S-63194231, S-63277212, S-63119956, S-62910496, S-63075710, S-62999456, S-63125716, S-63194462, S-62731707, S-62904959, S-63125734, S-63271456, S-63541721, S-63114266, S-63146987, S-63252730, S-63266956, S-63219970, S-63252977, S-63252725, S-63264724, S-63269206, S-63183709, S-63273474, S-63125730, S-63226715, S-63190218, S-62923210, S-62963726, S-62976708, S-63250210, S-63250970, S-63190238, S-63148207, S-63249981, S-63250007, S-63076708, S-63250997, S-63252728, S-63226712, S-63195232, S-63076727, S-64565709, S-63229469, S-63233458, S-63249225, S-63190240, S-63196979, S-63274723, S-63270709

Summary of issues raised

A number of submitters raised concerns about the project involving overhead, rather than underground transmission lines. For readability, the concerns have been grouped into four general categories based on the issues raised in the submissions:

- engineering considerations and international practices
- environmental impact considerations
- cost and time considerations
- assessment process considerations.

Engineering considerations and international practices

- undergrounding the transmission lines is not a practical option for long-distance power transmission
- there needs to be a clear distinction and comparison between underground high voltage alternating current (HVAC) and underground high voltage direct current (HVDC) in assessing costs and technical solutions, as the outcomes can vary in terms of environmental impacts, costs, and resilience (where HVDC is superior)
- to realise the true net benefit of underground HVDC, a Triple Bottom Line analysis is required
- undergrounding would minimise the risk of extreme weather events that would be worsened by climate change, including bushfires, impacting operation of the line and resulting in transmission line failure and/or blackouts
- undergrounding for long-distance direct current (DC) transmission is consistent with international standards for non-urban areas with significant environmental, agricultural, scenic and social value

- overhead infrastructure is dangerous, inefficient and leaks energy and estimated transmission losses and associated carbon emissions would be much less with underground DC transmission
- underground cables are less difficult and time consuming to operate and maintain and may avoid the need to replace the lines within a short time frame due to climate change and lines failing
- undergrounding is best practice overseas (eg Europe) and it appears that recent relevant information/studies have been ignored as overhead transmission lines are outdated
- Transgrid builds underground transmission lines in urban areas
- underground near Crookwell 2 Wind Farm to maintain a route that parallels the existing 330 kV transmission line

Environmental impact considerations

- undergrounding would result in less impacts on the environment and community, including visual, biodiversity, land use (including agriculture and productive forestry), bushfire, electric and magnetic fields (EMF), social, aviation, water, property, noise, heritage and traffic impacts
- undergrounding would not impede firefighting efforts unlike overhead lines
- the Pacific Energy and Gas company in California, USA has made the decision to underground its current overhead transmission lines because they were found to cause wildfires
- horizontal directional drilling can avoid impacts on waterways, wetlands, vegetation and heritage
- undergrounding would have minimal additional environmental impact after construction and be associated with a smaller/narrower easement footprint that can be partially rehabilitated
- undergrounding would not require major roads for access or crane pads for structure erection, which would minimise environmental impacts
- undergrounding would resolve issues associated with the need to avoid national parks

Cost and time considerations

- the undergrounding cost provided has been exaggerated and is an over-estimate based on misleading or incorrect assumptions and should be reassessed
- overhead infrastructure is only being pursued due to timelines and cost, which have already blown out on the project so should not be used as an excuse not to underground HumeLink
- undergrounding may have higher capital costs, but would minimise biodiversity offset, compensation, easement costs and maintenance costs
- the costs of undergrounding would be offset by its improved resilience to future climate effects

Assessment process considerations:

- undergrounding would minimise objections and associated risks to the project as it is preferred by landowners and the current plan has no social licence
- Transgrid has misrepresented the facts on undergrounding to date, including in its submission to the public inquiry on undergrounding
- the HumeLink Project – Underground Report was inadequate as a decision-making tool as concerns raised by the Community Consultation Group representatives on the Steering Committee were not sufficiently addressed and the report was not supported by the Steering Committee
- the GHD report did not investigate undergrounding further despite stating market testing is required to provide more certainty
- the recent NSW Parliamentary Inquiry into the feasibility of undergrounding appeared pre-determined by the government and inadequate in addressing long-term benefits and all submissions supported HumeLink being built underground except for Transgrid's.

Response

Engineering considerations and international practices

Undergrounding high-voltage electricity lines refers to the installation of electrical cables in underground conduits, as opposed to the traditional method of installing overhead transmission lines supported by poles or towers. There are various types of cables that can be used for underground installations, including high-voltage power cables, extra-high voltage power cables, and submarine power cables. Each type of cable has its own technical specifications and installation requirements.

There are also different methods for installing underground cables, including trenching, directional drilling, and deep tunnelling. Underground installation is made up of several components, including the cable itself, conduits to house and protect the cable, and jointing bays to connect the cables together. Other components may include cable termination bays (underground to above-ground transitions), grounding systems, and insulation materials.

Transgrid has examined existing case studies and current projects with undergrounding of transmission lines in both a domestic and international context, which has informed the assessment of undergrounding options for HumeLink. This included consideration of Marinus Link in Tasmania, SuedLink in Germany, SOO Green in USA, Western Victoria Renewable Integration Project and Powering Sydney's Future in NSW. The preferred option for each project was dependent on several factors including engineering aspects, delivery timeframe, cost considerations, social considerations, and environmental issues. Technical aspects considered when designing and constructing transmission infrastructure included voltage levels to be transmitted, the distance of the line being installed, and the terrain and environment that is crossed.

Long-distance underground transmission lines, most often HVDC, are designed to deliver from areas of high concentrations of generation (such as a power station) to load points (eg urban areas). There are good examples both in Australia and around the world that demonstrate the benefits of underground transmission lines, where high capacity electricity transmission needs to get from one point to another, particularly in densely populated areas.

HVDC is commonly used to connect offshore wind farms to the onshore grid. The long distances involved and the need to transmit large amounts of power from offshore installations make HVDC an efficient and reliable solution. HVDC transmission plays a role in its ability to transmit power efficiently over long distances, connecting remote generation sources to areas requiring the electrical energy. However, HVDC lines do have limitations. Transmission projects, including HumeLink, which form part of the NEM's energy 'superhighway' require HVAC transmission lines that will act as collector lines. These lines are designed to collect large volumes of renewable energy across their routes rather than a point-to-point delivery.

When connecting renewable energy sources to underground cables along a route, transition stations are often required to facilitate the conversion from underground to overhead transmission and vice versa. These transition sites, similar in area to traditional substations, play a crucial role in integrating renewable generation into the grid whilst being able to protect the transmission lines (both underground and overhead). However, they can present challenges in terms of site placement, costs, and potential project delays.

HVAC underground cable is suited to lengths less than approximately 50 kilometres. Beyond 50 kilometres in length, alternating current (AC) lines at high-voltage level will be subject to very large charging currents, requiring significant reactive compensation and design considerations.

For HVDC options, a long length of underground cable is feasible. Both underground HVDC and underground HVAC have their specific applications and considerations. The choice between them depends on factors such as the distance of transmission, power requirements, environmental considerations, and cost-effectiveness.

Another technical limitation of underground transmission lines is the heat generated. Specialised materials are required to ensure the insulation can withstand the very high voltages. If heat is not effectively removed from the cables, the insulating materials can suffer from accelerated degradation leading to cable failures or a shortening of the cable operational life. This intense heat generated by underground lines also means they do not have the same capacity as overhead lines therefore will limit the ability to transport renewable generation sources along the route.

A further technical consideration is monitoring and maintenance of the line. Maintenance of the condition of underground transmission lines can be more challenging than with overhead lines. Regular inspection and maintenance require specialised equipment and techniques. Detecting and locating faults in buried cables can be time-consuming, increasing the time required to locate the fault/s and significantly longer time frame to repair the fault/s and restore the power supply compared to overhead transmission lines.

Underground cables are more susceptible to deterioration over time, primarily due to moisture seepage. This deterioration poses a significant risk to the reliability of the network and leads to increased ongoing maintenance expenses. In contrast, overhead lines are more exposed to weather and external events, but these events are typically temporary and transient in nature.

With the increasing weather uncertainty and climatic conditions effects on above ground infrastructure, the 500 kV network in NSW is designed to accommodate wind conditions (those most likely to impact on above ground transmission structural integrity in Australia) above those recommended by Australian Standards in accordance with ALARP (as low as reasonably practicable) principles and recent weather/environmental events across Australia and overseas.

Environmental impact considerations

While underground transmission lines may reduce visual impact, their installation would still have environmental impacts. Excavation and trenching can disrupt natural habitats, disturb ecosystems, and impact groundwater resources. Mitigation measures need to be implemented to minimise environmental impacts during installation and ensure proper reclamation after.

Trenching, which is the most common and generally lowest cost method of constructing underground transmission infrastructure, creates environmental impacts. Trenching would require excavation to a depth of around two metres for the entire distance of underground cable installation. Due to the need to manage significant heat impacts to the high voltage cables, specialised fill is required to be placed in the trenches to surround the cables. This requires significant resources to manufacture and deliver to site. Furthermore, most of the material excavated from the trench cannot be backfilled and would likely require disposal off-site. Trenching requires removal of all above-ground vegetation as well as one to two metres of the ground surface. This creates impacts for biodiversity above and below ground, and soils and water resources. Additionally, because heat from the underground cables dissipates through the soil, as well as the ongoing requirement to provide access for excavation in the event of a fault, the land above underground lines must be kept clear of certain types of vegetation, for example, taller shrubs and trees with deep root systems. With overhead transmission lines it would be possible to retain some vegetation on easement where it meets the vegetation clearance requirements. As such, easements above underground cables may be

sterilised for other productive purposes. Due to the much larger quantities of soil disturbance and vehicle movement with underground cables, there are also greater biosecurity risks.

An additional environmental impact related to the trenching of the easement is that an access road for the entire route is required, whereas with overhead transmission access roads are only required for individual transmission line structure locations. Excavated materials are not suitable for backfill and these need to be transported and disposed at other locations across regional and rural areas. This is a high cost and will heavily impact road networks in the local communities. The importation of the select fill around the cables will also require intensive use of road networks and the addition of more access roads, which will need to be built to safety specifications.

Farming activities can also be impacted as undergrounding is more invasive during construction. Also, some ongoing operational limitations will be placed on land use, which can include restrictions on farming activities and types of crops planted over the cables.

Australia's cultural heritage also needs to be considered with route selection and construction methodology. There is a higher potential for disturbance of Aboriginal heritage with underground cables as the whole route is required to be excavated. Discovering heritage items during construction would have a greater impact than during the earlier detailed design phases where alignment changes can be captured. For overhead lines, the proposed transmission line structures can be micro-sited through the design process to avoid impacts should heritage items be discovered.

Bushfires are a significant concern for the communities where electrical assets are located. For all Transgrid major projects, the planning, design, construction and operation takes bushfire risk into consideration every step of the way. This includes risk assessments, constraints mapping and engagement with emergency services as well as local communities. Analysis of the major bushfires in Australia caused by electricity infrastructure highlighted that they were ignited by distribution powerlines or equipment typically below 66 kV, rather than transmission equipment in voltage ranges of 110 kV and above.

Transgrid adopts a preventative approach to bushfire management. The focus is on operating and maintaining the network to minimise the risk of bushfires through proactive and regular vegetation management, regular reviews and inspections of assets (to ensure they are fit for purpose), and inspection and management of the easement that supports the infrastructure.

The *Concept Design and Cost Estimate HumeLink Project – Underground* (GHD, 2022) report provides further commentary on the potential environmental impacts of underground versus overhead transmission lines. This includes commentary on the potential differences in EMF, social, aviation, property and noise impacts for various technical solutions and route options.

National parks were a Tier 2 constraint for the route selection of the project which means that impacts in these areas should be avoided wherever possible and if this is not possible, minimised to the greatest extent possible. While undergrounding the transmission lines in national parks would mean there would be fewer permanent structures visible (noting there may still be a need for transition stations, depending on the length of the transmission line), it would not avoid environmental impacts or the property and approval requirements associated with direct impacts on national parks. This is because the easement would still require full clearing of trees and vegetation, which would result in environmental and community impacts, such as reduced amenity and restricted access.

Cost and time considerations

The cost of undergrounding transmission infrastructure is recognised as being significantly greater than overhead transmission line construction. Increased costs are related to:

- materials required for underground infrastructure
- installation methodology (trenching, specialised backfill material, specialised cable jointing)
- increased construction time frames
- additional circuits to meet equivalent overhead capacity
- cost of transition stations (underground to overhead conversion sites)
- need for reactive plant along the line to manage stability
- ability for overhead to span significant geological features whereas underground may not be able and therefore route increases occur.

The capital cost of undergrounding as per the findings of *Concept Design and Cost Estimate – HumeLink Project – Underground* (GHD, 2022) would be between 2.9 and 3.5 times that of overhead. Transgrid recognises that the cost of designing and constructing infrastructure is significantly more expensive in Australia than it is in other countries. Factors comparing Australian conditions to overseas examples need to be transparently included in capital estimates and based on other evidence both in Australia and overseas. The capital costs as represented by GHD in the report are considered reasonable for the purposes of options screening and comparison. Further detail on the cost estimate methodology and its assumptions is provided in the *Transgrid response to Undergrounding Feasibility Study* (Transgrid, 2023d).

As part of every transmission project, the route design and cost of delivering the project is subject to significant review and engagement with stakeholders, including the regulatory authority, the Australian Energy Regulator (AER). The AER must be satisfied that the total investment is both prudent and efficient in terms of the cost to deliver the project, because it has a direct impact to consumer bills. In the case of HumeLink, the difference in cost between overhead and underground development is considered substantive and as such is not in the best interests of keeping the cost to consumers as low as possible.

The 2023 parliamentary inquiry concluded that undergrounding HumeLink is not a feasible option. HumeLink is urgently required to reduce risks related to the reliable supply of electricity to millions of Australians on the eastern seaboard. As such, Transgrid remains committed to HumeLink's completion by 2026. Further, the delays associated with undergrounding will result in a loss of up to \$1 billion in lower-cost renewables for consumers. Delays will also result in a slower retiring of fossil fuel assets. Given the cost-of-living pressures being experienced by consumers, this is particularly pertinent and Transgrid is committed to doing everything it can to put downward pressure on customer bills. In addition, delays associated with undergrounding would have a significant impact on network security.

The Legislative Council Committee for State Development held a Parliamentary Inquiry into the feasibility of undergrounding the transmission infrastructure for renewable energy projects. The findings from this parliamentary inquiry concluded that the current construction method is the correct approach and that undergrounding HumeLink is not a feasible option. Following this inquiry, the NSW Parliament formed a Select Committee to examine the feasibility of undergrounding of transmission infrastructure for renewable energy projects. Transgrid participated in both parliamentary inquiries into the feasibility of undergrounding transmission projects and acknowledge both reports, including the findings and recommendations made. If requested, Transgrid will assist the NSW Government in preparing its response to the Select Committee report on the Feasibility of Undergrounding the Transmission Infrastructure for Renewable Energy Projects.

HumeLink has been assessed as an overhead transmission line project and as such the impacts and offset requirements for the project have been assessed on that basis. An undergrounding solution for HumeLink has not been designed (including the ancillary infrastructure and construction locations required), and therefore the associated impacts and likely offset, compensation, easement and maintenance costs are unable to be derived or compared to that of the project as exhibited in the EIS.

HumeLink is urgently required to avoid rolling black outs which would jeopardise the supply of electricity to millions of Australians on the eastern seaboard. As such, Transgrid remains committed to HumeLink's completion as an overhead transmission line project in 2026. HumeLink has been assessed as an overhead transmission line project and so the impacts and offset requirements for the project have been assessed on that basis. An undergrounding solution for HumeLink has not been designed (including the ancillary infrastructure and construction locations required), and therefore the associated impacts and likely offset, compensation, easement and maintenance costs are unable to be derived or compared to that of the project as exhibited in the EIS.

Assessment process considerations

In late 2021, Transgrid was asked by the community and landowners to investigate options that explore the feasibility of building HumeLink via underground cable instead of overhead transmission lines. Responding to community concerns, Transgrid engaged GHD and sub-consultants Stantec to conduct a feasibility study into undergrounding options particular to the HumeLink transmission line route. Transgrid also formed a community-led Steering Committee which included a representative from each of the HumeLink Community Consultative Groups (CCGs) as well as the consultancy Amplitude (nominated by the CCGs as the independent technical advisor).

The scope of the GHD/Stantec study into the feasibility of undergrounding was formed by the steering Committee (comprising community representatives and Transgrid), which focused on developing and pricing different undergrounding options for HumeLink to enable a holistic comparison with overhead transmission line options. After a number of workshops with the Steering Committee, GHD/Stantec provided the committee with a draft report on 27 May 2022. The Steering Committee provided comments on the draft on 5 June 2022 and the final report was issued to the committee on 17 June 2022. The report was then published on the HumeLink website. GHD reviewed and considered all feedback provided by the community's independent consultant. A response to the Undergrounding Study Report was released by Transgrid in February 2023 capturing an assessment of the Undergrounding Study Report and acknowledging the Steering Committee's position on the report.

The NSW Parliamentary Inquiry into the feasibility of undergrounding the transmission infrastructure for renewable energy projects, which was established on 22 June 2023, was led by the NSW Government. While Transgrid was asked to comment and participate in the process, the NSW Government was responsible for considering the issues raised in the submissions and making a decision on the outcome.

7.2.2. Options and development process

Submitter ID numbers

S-62489962, S-63270717, S-62866208, S-63277212, S-62731707, S-63219970, S-63252728

Summary of issues raised

Submitters raised concerns about the project involving the criteria used in the identification and assessment of transmission line corridor options, particularly in relation to the avoidance of certain land uses. Specific comments included:

- the project is located too close to national parks and nature reserves being within 200 metres of six protected areas and so environmental protection buffers (suggestions of both one kilometre and two kilometre wide buffers) should be applied to all national parks, reserves and conservation areas
- the project should be the shortest route possible and located on NSW Government-owned land, Crown land or national parks instead of private properties
- there is a shorter route that can be taken that already exists through national parks, which would cost less and be more efficient due to transmission losses and minimise agricultural impacts
- questioned the requirement to co-locate the 500 kV transmission lines with existing 330 kV transmission lines and why alternatives were not considered
- the project should be located away from rural towns and instead in areas more amenable to renewable energy
- understanding how many dwellings are within the project footprint compared to outside the project footprint is required to confirm the decision-making process for the route only impacting a small number of dwellings.

Response

The identification and refinement of transmission line corridor options is highly complex as it involves balancing several competing constraints and opportunities, including different land uses. There are also varying opinions on the preferred land uses for transmission line infrastructure to extend through. For example, some submissions suggested complete avoidance and buffer areas around national parks to be implemented while others suggested the transmission line should follow the shortest route and cut through national parks instead of private property.

As discussed in Appendix E (Options Report) of the EIS, Transgrid's assessment of route options for HumeLink considered several factors including the costs and benefits for supply of electricity to consumers as well as the potential impacts on landowners, the community, and the environment.

National parks and other protected areas such as reserves and conservation areas serve multiple important purposes for the community including preserving biodiversity, heritage sites and Aboriginal culture, as well as offering recreational opportunities. Therefore, analysis of the impact of constructing transmission lines or other infrastructure through or in protected areas usually results in a greater level of environmental impact than for other land uses. The NSW and Commonwealth governments planning approval process requires projects to avoid and then minimise environmental impacts. Offsets are a last resort for unavoidable impacts. Therefore, land uses with a range of potential environmental impacts, such as national parks and nature reserves, were prioritised for avoidance during the route options selection process. Further details on the tiered constraints methodology adopted is described in Appendix E (Options Report) of the EIS.

Other constraints to be avoided to the extent practicable, included built-up areas (towns and dense residential areas), individual residences and land uses incompatible with transmission lines, such as air strips and pivot irrigation.

Opportunities to locate the proposed transmission line and associated infrastructure on public land (ie government owned land) or parallel with existing Transgrid infrastructure were also considered and adopted where feasible and aligned with the general avoidance and minimisation of impact principles. Paralleling existing transmission lines is generally preferred for transmission line corridor planning as it minimises impacts on additional landscapes or land uses. The project has also generally been located near other major transmission projects, renewable energy projects and REZs, which is aligned with the 2022 ISP and Draft 2024 ISP, where coordination of generation and transmission infrastructure is encouraged for efficient transfer of energy. Chapter 25 (Cumulative impacts) of the EIS and Chapter 2 (Strategic context) of the Amendment Report provide more detail on the nearby renewable energy projects and their relationship to the project.

As outlined in Chapter 2 (Strategic context and project need) of the EIS, the development of corridor options for the project has prioritised avoiding direct impacts on dwellings wherever possible. Since public exhibition of the EIS, several changes to the transmission line corridor and associated project footprint have been proposed (refer to Chapter 3 (Description of the amended project) of the Amendment Report). There are 11 dwellings that have been identified within the amended project footprint. However, of these 11 dwellings, only two dwellings are likely to require demolition or relocation due to their location within the proposed transmission line easement. This is considered to be a small number of dwellings given the substantial length of the project (around 365 kilometres). The need for demolition or relocation of dwellings and other property structures would be confirmed during further detailed design and in negotiation with landowners.

Submitter ID numbers

S-63226715, S-63196979, S-62731707

Summary of issues raised

Submitters raised concerns about the Green Hills corridor amendment being substantially different to the transmission line corridor presented and assessed in the EIS. Specific comments included:

- the Green Hills corridor amendment would result in the loss of around 400 hectares of prime timber plantations and 300 hectares of native forest in Bago State Forest, which is an ironic situation where a renewable energy project can only be enabled by facilitating deforestation of native forest, deviating away from an existing easement and is at odds with NSW Government policy that recognises resource limitations and the need to increase timber supply
- the route assessed in the EIS is the November 2022 route, which is completely different to the route currently proposed through Green Hills State Forest around Batlow
- the Green Hills route is substantially longer and assumed more costly to the original route
- the proponent has of its own accord and without disclosure determined that the extra cost of the alternative route is justified to mitigate against the impact of its original route on surrounding landowners and the community
- Transgrid should be required to divulge the basis of its determination to choose this more costly alternative route and be required to apply that basis to other sections where it has to date chosen not to consider and assess any [more costly] alternatives.

Response

During extensive consultation and engagement with the community, landowners and key stakeholders, Transgrid received multiple requests to relocate more of the transmission line corridor onto public land. The community put forward to Transgrid for consideration an alternative transmission line corridor to the west of Batlow, through sections of Green Hills State Forest that had been severely affected by fire. Transgrid committed to investigating the feasibility of this option in parallel with EIS development.

Following an analysis of risks and opportunities, identification of constraints and comparison of costs, as well as input from the construction contractor and Forestry Corporation of NSW (FCNSW), it was determined that the Green Hills corridor amendment option was preferred over the corridor that was presented in the EIS. The Green Hills corridor amendment was considered to offer the following benefits:

- aligns with an alternative proposed and led by the local community and principles announced by NSW Government on placing transmission infrastructure on public land where feasible
- reduces private property impacts in Gilmore
- reduces visual amenity impacts by reducing the visibility of the transmission line
- reduces the extent of impacts to native vegetation
- avoids Aboriginal heritage items in Bago State Forest
- provides opportunities to utilise established previously disturbed forestry tracks for construction purposes resulting in greatly reduced earthworks and safer construction access.

While the overall length of the amended project with the Green Hills corridor amendment is longer than the transmission line corridor presented in the EIS, the cost of this option is lower as a result of the:

- terrain, which reduced the amount of steel required per kilometre
- availability of existing access tracks, which reduced the cost to establish suitable access
- reduced biodiversity impacts, which reduced the associated biodiversity offset cost.

As a result, Transgrid has adopted the Green Hills corridor amendment as part of the amended project. The Green Hills corridor amendment is described further and assessed in Chapter 3 (Description of the amended project) and Chapter 6 (Assessment of impacts) of the Amendment Report, respectively.

Submitter ID numbers

S-63250997, S-63249225, S-63226715

Summary of issues raised

Submitters raised concerns about the 'Red Hat Review' that was prepared by MacroPlan, including its consideration in the options assessment process and lack of access to the report. Specific comments included:

- a report prepared by MacroPlan was important in supporting the use of the Green Hills 'refinement' and so to ensure transparency and indeed accuracy of the financial assumptions made, a review by a suitably qualified timber industry expert must be conducted
- do not understand why access is being denied to the Red Hat Review report, as the presentation has only been provided as a summary in the CCG presentation of September 2022 but the community were never provided with the complete report

- there appears to be inconsistent use and consideration of the ‘Red Hat Review’ and that its recommendations to underground the transmission line in bushfire prone areas should have been considered.

Response

In mid-2022, Transgrid engaged an independent consultant, MacroPlan, to undertake a review of HumeLink’s route options assessment in the Tumut and Bannaby areas. The objective was to provide feedback to Transgrid on how it could improve its route options processes and outcomes. While the report outlining the findings of the review is an internal document, key outcomes were shared at the Snowy Valleys, Upper Lachlan and Wagga Wagga CCG meetings in September 2022. The presentation and minutes from these CCG meetings are available on the HumeLink webpage.

Submitter ID numbers

S-63065456, S-62731707, S-63125734, S-63146971, S-63076708, S-63250997, S-63252728, S-63249225, S-63274723

Summary of issues raised

Submitters raised concerns about the options development and assessment process, including the adequacy of the process and inconsistencies in the methodology and application of criteria, such as the Tier 1 and 2 constraints.

Specific comments included:

- Transgrid has not consistently followed its route selection guiding principles and criteria established at the beginning of the process including minimising net impact, keeping the transmission line as straight as possible, selecting the shortest possible route between two substations and where possible paralleling existing transmission easements or using public land
- the Tier 1 and 2 constraints were followed inconsistently during options assessment and refinement
- an EIS needs to be prepared for all alternatives considered for the project for NSW Department of Planning, Housing and Infrastructure (DPHI) to determine which alternative has the least impact for approval
- Transgrid need to provide more justification for the chosen route and should present all alternatives considered with evidence of consultation
- the options development and assessment process and associated community engagement has not been fair, robust and transparent and does not align with industry best practice
- the options development and assessment process must apply a constraints matrix, include a comprehensive assessment with associated costs, benefits and risks and include engagement
- the options development and assessment process was inadequate because it did not meet the assessment criteria or methodology developed by Transgrid and advised to the community
- landowners were told everything would be done to avoid areas that the final route goes directly over
- questions why their property was not avoided during route selection as it is classified as a Tier 2 constraint and in a high bushfire risk area
- claims of deviations for political reasons/profit
- landowners were told several reasons route realignment could not occur, which appear untrue as these reasons did not prevent other changes occurring on other properties, including lack of survey access, timing and negotiated outcomes.

Response

The transmission line options development and assessment process involved several different stages including:

- identification and assessment of strategic options through the RIT-T process, which focused on identifying the most economically beneficial technical option for the project
- identification of an initial one to five kilometre-wide study corridor, which largely relied on identification of high-level constraints through desktop analysis and community engagement
- refinement of the study corridor to identify the generally 200-metre wide transmission line corridor as presented in the EIS, which involved several localised route refinements informed by consultation with landowners and stakeholders, site visits, design development and improvement in constraints understanding through field studies and environmental assessment as well as adopting a multi-criteria analysis
- refinement of the transmission line corridor as presented in the EIS to the corridor as presented in the amended project, which was informed by further design and construction planning by the construction contractors as well as feedback from landowners and stakeholders.

Section 2.6 and Appendix E (Options Report) of the EIS provide further discussion on the alternatives and options process for the project. As transmission line corridor and route selection is multi-faceted and aims to achieve an optimal outcome by considering technical, environmental, community and cost considerations, there is no one-size-fits-all approach. In localised route refinements, site specific information and input from landowners has been considered. The corridor and route selection and refinement process for the project has been iterative and has also developed in response to evolving corporate priorities and requirements. Transgrid has developed a standardised *Route Selection Guideline* (Transgrid, 2023e) for its new transmission infrastructure projects to ensure greater consistency in its approach.

Submitter ID numbers

S-63065456, S-62731707, S-63250210, S-63252728, S-63274723, S-63146971

Summary of issues raised

Submitters raised concerns about the accuracy and adequacy of the information used to inform the options assessment and route refinement decisions. Specific comments included:

- route assessment was done on a desktop basis with lack of information and engagement
- the options assessment process was inadequate as it did not include a specialist visual amenity and landscape character assessment, preliminary social assessment or agricultural expertise
- the options assessment process needs to use accurate and up-to-date data
- the mapping in the EIS suggests that the selected route is preferred because of the location of a plantation across the river that does not exist, which raises questions regarding decisions made
- localised route refinement decisions were made based on GHD reports using GIS scoring that did not count any impacts on agriculture or farmland
- the Tumut area factsheet linked in the EIS is flawed as Tumut River is not listed as impacted by the Tumut North Route, the Tumut Wetlands being listed as potentially impacted by the proposed Kosciuszko Route when it is actually nearer the preferred Tumut North Route and State forests are left off the key constraints list for the Tumut North Route.

Response

Section 2.6 and Appendix E (Options Report) of the EIS provide details on the transmission line options development and assessment process, including the information sources and engagement considered during the assessment.

While the transmission line corridor options were originally identified based on a desktop analysis of constraints and opportunities, the transmission line options development and assessment process has incorporated information from community members and up-to-date specialist information and data. This includes the technical assessments prepared for the EIS, eg landscape character and visual impact assessment, biodiversity assessment, etc., which involved field work to verify desktop information where relevant. Route options put forward by landowners and the broader community were assessed using a consistent process, taking into account the locally relevant constraints. In many instances, these assessments resulted in route refinements. This includes the Green Hills corridor amendment that has been adopted in the amended project following exhibition of the EIS (refer to Chapter 3 (Description of the amended project) of the Amendment Report).

It is not clear which section of the EIS the submission is referring to when stating that a non-existent “plantation across the river” has been included in the mapping. The GIS data used by Transgrid and GHD did not include any plantations along the Tumut River north of Blowering Dam.

Farming activities such as grazing and cropping can continue under transmission lines and within the easement area subject to height restrictions and are therefore not considered constraints to route selection. However, there are some limitations to activities such as irrigation and aerial spraying, which are less favourable for transmission line infrastructure. Existing pivot irrigation and airstrips were considered as constraints for the locations of the transmission line in the GHD route options assessment.

The GHD route options assessment incorrectly lists the Tumut Wetlands and the Tumut River as constraints for the Wondalga to Maragle to Yass via Kosciuszko National Park route. However, these features were not included in the InDEGO analysis for this route and did therefore not affect the outcome of the route options assessment.

Submitter ID numbers

S-63277212, S-63119956, S-63250210, S-63249225

Summary of issues raised

Submitters raised concerns about the consideration of bushfire-prone areas and other external factors that may affect the resilience of the transmission line in the transmission line corridor selection. Specific comments included:

- the planning for HumeLink preceded bushfires, COVID-19, floods and inflation that have impacted NSW in recent years
- the process involved inconsistent consideration of bushfire-prone areas and queries why HumeLink extends through regions with high risk of bushfires
- the project does not meet the grid resilience criterion to minimise risks to critical energy infrastructure and costs to energy consumers because it is constructed in an area that supports high-intensity bushfires

- need to include the financial and social implications of potential blackouts from transmission line failure when evaluating options (ie avoid single points of failure).

Response

Transgrid's planning and investment processes are aligned with common industry practice and all relevant regulatory obligations as an electricity transmission system operator within NSW. The processes centre on achieving the most prudent and efficient outcome that delivers the highest net economic benefits to consumers of NSW.

Transgrid understands many events have impacted NSW since 2019, notably, unprecedented natural disasters (eg bushfires and floods), a global pandemic, and economic inflationary pressures. Transgrid takes these external factors into account through the planning, investment, evaluations, and decision-making processes. For example, natural disasters are factored into our resilience decisions on route selection, asset type selection, application of design standards, network operating protocols and ongoing maintenance requirements.

The process of transmission line route selection considers numerous factors when evaluating a preferred outcome. These include environmental, community, technical and cost considerations. Network resilience is a key technical factor and takes into account the potential effect of bushfires on our infrastructure and risks to electricity supply from potential outages.

Transgrid's general preference is to avoid transmission corridors within high bushfire risk areas. This may be unavoidable in some instances when determining the optimal balance of the aforementioned factors. In all instances, Transgrid manage bushfire-related risks to as low as reasonably practicable as per the Bushfire Risk Management Plan.

Transgrid has incorporated a number of bushfire resilience measures for the proposed 500 kV transmission lines including:

- use of fire-resistant materials that can withstand high temperatures – these include using steel towers, glass insulators, and steel-reinforced conductors
- mandating conductor ground clearances and blow-out distances that consider the maximum operating temperature and sway of the conductors in high winds
- maintaining easement widths and vegetation clearing requirements that ensure safe clearances to the line are maintained
- designing the transmission line structures to *AS/NZS7000 Overhead Line Design*, which is aligned to good industry practice.

While the 2019-20 bushfires caused damage to Transgrid's network, none of Transgrid's 500 kV transmission lines experienced major damage or failures as a result of these events.

Submitter ID numbers

S-63219970, S-63250210, S-63250997

Summary of issues raised

Submitters raised concerns about the assessment of strategic options for the project in the RIT-T process. Specific comments included:

- the EIS incorrectly states that the RIT-T requires Transgrid to provide the most efficient option based on capital costs, operating costs and impacts on landowners, community and the environment however, this is not consistent with the regulatory rules and requirements as the only requirement is the cheapest capital cost for consumers
- HumeLink's route, cost, capacity, and environmental footprint have been determined by Snowy Hydro's desire to connect Snowy 2.0 as cheaply as possible.

Response

Section 2.6.2 of the EIS states "Based on the findings from the report, undergrounding HumeLink would not be consistent with the regulatory rules that require Transgrid to propose the most efficient option for consumers based on the capital cost of the solution, the ongoing operational costs, the market benefits, the expected reliability, and the costs associated with the impact on landowners, the community, and the environment." The 'regulatory rules' in this statement refer to both the RIT-T process as well as Transgrid's obligations under the NSW and Commonwealth government approval pathways to determine a route that minimises net impact.

The RIT-T assessment process is an economic cost-benefit test that applies to all major network investments in the NEM to enhance transparency and consistency in investment decision-making. The purpose of the RIT-T is to consider all feasible technical options to address the identified need for the transmission network (including non-network options) and to ensure that the selected option maximises benefits to all those who produce, consume and transport electricity in the market. In many ways the RIT-T process is an independent regulatory review by the Australian Energy Regulator of the need for HumeLink albeit largely focused on the economic and financial aspects.

In accordance with the RIT-T, it was determined that the installation of a new 500 kV overhead transmission line between Wagga Wagga, Maragle and Bannaby was the most suitable strategic solution to meet the network's needs. This strategic solution involves a connection to the future Maragle 500 kV substation that is being built and operated as part of the Snowy 2.0 Transmission Connection Project. However, the operation of HumeLink does not rely on Snowy 2.0 to be completed. HumeLink would reduce the risk of electricity supply scarcity for NSW consumers by improving access to stored energy from across the entire Snowy scheme, renewable energy from southern NSW and energy from South Australia (via Project EnergyConnect) and Victoria (via VNI and VNI West), even in the absence of Snowy 2.0.

Submitter ID numbers

S-63065456, S-63119956, S-63226712

Summary of issues raised

Submitters raised concerns about the route selection process that was followed to determine the preferred transmission line route near Bannaby. Specific comments included:

- it appears that the Bannaby northern route decision vs southern route decision had been made before genuine community consultation had commenced
- the route selection process guiding principles are not being followed in this area
- a cost benefit analysis and ecology/cultural survey reports of the two Bannaby routes is requested
- lack of engagement/negotiation with NSW National Parks and Wildlife Service (NPWS) to secure a corridor crossing Tarlo River National Park
- Transgrid's position that transmission lines cannot run through Tarlo River National Park is queried given Snowy 2.0 Transmission Connection Project is in Kosciuszko National Park, the southern route has a small impact on the national park and the existing 330 kV lines in Tarlo River National Park are subject to a maintenance agreement that could be expanded to accommodate HumeLink and be consistent with the Tarlo River National Park Plan of Management
- the transmission line should follow existing lines in Tarlo River National Park and that further explanation is required why the environmental impacts would be less
- the southern Bannaby route could use existing access tracks whereas for the northern route, new access tracks would be required
- Transgrid has moved the line at Batlow so should do the same for Bannaby
- the Bannaby route selection is concerning due to its proximity to the heritage-listed Hillas Farm Homestead.

Response

At the outset of the project, Transgrid focused on engagement with individual landowners. The Place Managers and Land Access Officers reached out to landowners throughout the study corridor in the Bannaby area, including those along Line 61. Landowner feedback and constraints information provided was taken into account in the route options assessment. A community session followed later in the process.

The route options assessment in the Bannaby area considered community, environmental, and engineering constraints along a range of routes and followed an approach consistent with that applied in other parts of the study corridor. The opportunity to use existing tracks was considered in the route options assessment process. The reasons for the selection of the preferred option at Bannaby are outlined in the *HumeLink Fact Sheet – Bannaby Route Refinement Decision* (Transgrid, 2022c), which is published on the HumeLink website.

A full cost benefit analysis of each option cannot be provided to landowners by Transgrid due to probity and confidentiality requirements and to recognise, respect and protect all stakeholders' rights.

There are no standalone ecology and cultural heritage reports for the Bannaby route options. As part of the route options assessment process, various biodiversity and heritage spatial data sets were considered to look at potential constraints. The biodiversity and heritage assessment reports for the project were provided as part of the EIS and covered the entire project footprint. Transgrid engaged with NPWS and National

Parks Association during the HumeLink route refinement process. The following topics were discussed with NPWS in relation to the Bannaby area:

- Transgrid's route options assessment process
- a potential route paralleling Line 61 through Tarlo River National Park
- potential impacts of such a route and the potential approval pathway.

NPWS indicated that transmission line routes impacting National Parks should be avoided where alternative routes are feasible.

Advice on potential ecological impacts was sought from specialist consultants, Niche Environment and Heritage (who prepared *Technical Report 1 – Biodiversity Development Assessment Report* of the EIS) on route options in the Bannaby area. Key outcomes of that assessment were shared with the community.

While a consistent approach to the route options assessment process was taken throughout the study corridor, each route option assessment had a distinct set of constraints, community concerns, and potential solutions. The Green Hills re-alignment did not introduce any new private landowners. The alignment proposed by the Bannaby Residents Action Group would not have materially reduced the number of private landowners impacted and would have shifted impacts from one set of landowners to another, affected overall project timeframes, and increased environmental impacts.

Transgrid acknowledges the proximity of the heritage listed Hillas Farm Homestead and Outbuildings to the amended project footprint. Assessment of potential direct and indirect impacts to Hillas Farm Homestead and Outbuildings from the amended project is provided in *Technical Report 3 – Historic Heritage Impact Assessment Addendum* of the Amendment Report. The assessment concluded that the amended project would have a negligible impact on this item.

Submitter ID numbers

S-63194231, S-63194462

Summary of issues raised

Submitters raised concerns about the consideration of specific transmission line options. Specific comments included:

- the EIS has not considered using HVDC technology and underground HVDC cables from the Wagga Wagga – Maragle – Sydney West Substation instead of the current project
- further detail is required on why a transmission line route to the north of Wagga Wagga Airport is no longer being considered.

Response

As discussed in Section 7.2.1, underground HVDC lines have limitations for their suitability for the project. Transmission projects, including HumeLink, which form part of the NEM's energy 'superhighway' require HVAC transmission lines that will act as collector lines. These lines are designed to collect large volumes of renewable energy across their routes rather than a point-to-point delivery. The EIS assesses the proposal accepted by the AER, which is an overhead HVAC transmission line.

Connections to the Sydney West Substation were considered in the HumeLink Project Specification Consultation Report as part of the RIT-T. However, it was determined at the conclusion of the RIT-T

process that the installation of a new 500 kV transmission line between Wagga Wagga, Maragle and Bannaby was the most suitable strategic solution to meet the network's needs.

Once the decision was made in the PACR published in July 2021 to progress a double-circuit configuration for the transmission lines, running north of Wagga Wagga Airport would have resulted in a longer route to connect the proposed Gugaa 500 kV substation to the future Maragle 500 kV substation. A longer line between these two nodes would have impacted more private land and resulted in higher construction and biodiversity offset costs.

7.2.3. Community suggestions

Submitter ID numbers

S-63266958, S-62731707, S-62904959, S-63125734, S-63183709, S-63250970, S-63195232, S-63233458, S-63196979, S-62494957

Summary of issues raised

Submitters raised specific alternate transmission line route suggestions for consideration in ongoing design refinement. Specific suggestions included:

- the transmission line should be rerouted through Green Hills State Forest to avoid impacting important habitat for fauna and flora
- minor route alignment refinements have been suggested by submitters (including on hand-drawn maps) to minimise local impacts including amenity, environmental and social impacts
- the transmission line route should be located to bypass Wagga Wagga and other towns and areas of high rural visual amenity
- the project should be located further south and follow the Hume Highway with connections to EnergyConnect at Lockhart and a 330 kV line connection to the proposed Gugaa 500 kV substation to avoid the rural residential fringe of Wagga Wagga and avoid visual impacts
- request Transgrid considers an alternative alignment to avoid *Eucalyptus blakelyi* which would see the transmission line route parallel the 330 kV line west of Yass and beyond Childowla where the 330 kV line crosses the Murrumbidgee River, before turning south towards its origin – the substation at the Tumut 3 Hydro Power Station at Talbingo
- suggested an alternate transmission line route which would include a substation at Wondalga and Uranquinty and installing one new 500 kV line to remove the need to parallel the 330 kV transmission line from Wagga Wagga to Wondalga
- alternative transmission line route suggested for better environmental outcomes requested to be assessed, including its crossing locations at Black Range Road and Derringullen Creek, the 132 kV 99M line and Bowning Creek
- underground near Crookwell 2 Wind Farm to maintain a route that parallels the existing 330 kV transmission line.

Response

Transgrid has considered all alternate route options proposed by landowners, community and other stakeholders and has further investigated a large number of these options. Individual property constraints and landowner needs have to be balanced against overall project requirements as changes on one property can have flow on effects to neighbouring properties. However, where these changes can be accommodated to minimise impacts on current land use and operations, they have been agreed with

landowners as part of the easement negotiation process. Going forward, transmission line infrastructure structures would be micro-sited during further detailed design.

A number of route selection fact sheets documenting the corridor and route options decision-making process are published on the [HumeLink website](#). These are summarised in Appendix E (Options Report) of the EIS.

As previously described, the amended project includes a transmission line corridor amendment through Green Hills State Forest in response to community and landowner feedback. Several other changes and refinements to the transmission line corridor have also been incorporated in the amended project, including changes that have been made as a result of ongoing consultation with impacted landowners. These changes have been presented and assessed in Chapter 3 (Description of the amended project) and Chapter 6 (Assessment of impacts) of the Amendment Report.

7.3. Procedural matters

7.3.1. Approval process

Submitter ID numbers

S-61852720, S-62084706, S-62910496, S-62731707, S-63249978, S-63273474, S-63146971, S-63249225

Summary of issues raised

Submitters raised concerns about the approval process for the EIS, including the conditions of consent to be applied and the inclusion of all project elements in the planning documentation provided. Specific comments included:

- ensure adequate and enforceable consent conditions are applied including conditions for appropriate compensation for loss in land value, road upgrades and maintenance (specifically for Hillcrest Road), extinguishment of fires within a certain distance of the transmission line and to control ongoing design refinement as the EIS lacks design specificity
- Transgrid lacks social licence and an environmental track record to complete the project safely and in line with community expectations and so DPHI should further analyse and consider all concerns raised in the EIS before granting approval and hold Transgrid accountable for its actions
- the replacement of the existing section of Line 51 should be considered a separate project and assessed accordingly as it was not considered as a part of the project application for SEARs and is considered a prelude for further upgrades that have not been accounted for in the EIS
- the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) Referral and Scoping Report do not assess whether overhead or underground transmission lines are better able to avoid and minimise impacts on protected matters, which is a flaw in the assessment process
- the scope for the Maragle substation in the RIT-T is not the same as what is proposed in the EIS for HumeLink (as this scope was in Snowy 2.0 Transmission Connection Project), which is a substantial change that should require reassessment as this either means that the cost benefit of HumeLink needs to be reassessed, or that the works are part of the same project and should have been assessed together
- as a new Upper House Select Committee hearing has now been established with findings due to be released March 2024 on undergrounding, the EIS should be placed on hold to ensure the project is reviewed in its entirety and in the context of the findings.

Response

Conditions of approval are a matter for consideration by DPHI and Commonwealth Department of Climate Change, Energy, the Environment and Water. The conditions of approval would be informed by the potential impacts and risks identified in the EIS, this Submissions Report and the Amendment Report. Upon project approval, Transgrid would be held accountable by DPHI for its compliance with the conditions of approval.

Transgrid recognises that earning the trust of landowners, communities, businesses, governments and other stakeholders is fundamental to our ability to deliver major transmission projects. As a result of feedback we have received through our engagement with communities and stakeholders, we are undertaking a number of initiatives to build social licence and deliver better outcomes for communities. This includes the introduction of a social impact monitoring and reporting model for HumeLink.

A consistent social impact delivery model applied across all project outcomes would provide a standard way to track and report on social impacts that may occur as a result of the project. The model serves as a shared communication approach to enable consistent tracking and reporting of social impacts across:

- employer requirements – workforce participation and development, local industry participation, and Aboriginal participation
- community investment and benefit – community connection, care for Country, education and skills development, local industry development, and Transgrid Social Legacy initiatives.

Transgrid integrates environmental considerations into all parts of its operations to protect our communities, achieve sustainable growth and drive compliance with all relevant legislation. Our Environmental Management System (EMS) provides the necessary structure to implement environmental policy, plan effectively, monitor performance and correct any issues. The EMS is certified under the international standard ISO 14001:2015 and includes procedures, training, records, inspections, objectives and policies which are periodically reviewed.

Transgrid's environment policy applies to all its activities and services. This includes infrastructure planning, building and operation, as well as ongoing asset management and decommissioning.

The project's EIS was prepared in accordance with the Planning Secretary's Environmental Assessment Requirements (SEARs), the Supplementary SEARs, the requirements of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and EPBC Act, the Environmental Planning and Assessment Regulation 2021, and *State significant infrastructure guidelines – preparing an environmental impact statement* (DPE, 2022a). The EIS assessed the potential impacts of the project and identified the management measures to address those impacts. These measures have been reviewed and updated as required in response to the assessment of the amended project in the Amendment Report (refer to the updated measures in Appendix B). Should the project be approved to proceed, it would be constructed and operated in accordance with the mitigation measures proposed as well as the relevant conditions of approval.

The replacement of an existing section of Line 51 (around two kilometres) is considered ancillary work to provide a sufficient area to facilitate the construction of new 500 kV transmission lines from the existing Wagga 330 kV substation and proposed Gugaa 500 kV substation, and therefore is not considered a separate project. Impacts associated with this work and other potential utility adjustments have been assessed in the EIS and the Amendment Report.

The scope of the project is the development of an overhead transmission line, as per Option 3C in the PACR, accepted by the AER. The planning approval documents, including the Scoping Report, which supports the SSI application for the project, and the EPBC Act Referral, therefore describe the project for which approval is being sought. It is not intended to provide a detailed comparison of alternative options and technologies. The EIS does however provide further background on how other options, including undergrounding, were considered (refer to Section 2.6.2 and Appendix E (Options Report) of the EIS).

The future Maragle 500 kV substation was assessed as part of the Snowy 2.0 Transmission Connection Project (SSI application SSI-9717). The EIS for the Snowy 2.0 Transmission Connection Project was published in February 2021 and the associated Amendment Report was published in March 2022. This description of the future Maragle 500 kV substation in these assessment documents informed the scope of HumeLink in that it was assumed the future Maragle 500 kV substation would be approved as assessed, which may be different to what was presented in the RIT-T. The full geographic extent for the future Maragle 500 kV substation is approved as per the Snowy 2.0 Transmission Connection Project infrastructure approval received in September 2022. The HumeLink transmission line connection work at the future Maragle 500 kV substation is described in Chapter 3 (Project description – infrastructure and operation) of the EIS.

The 2023 parliamentary inquiry concluded that undergrounding HumeLink is not a feasible option. Section 7.2.1 provides further discussion on why undergrounding was not considered feasible for HumeLink. Following the first parliamentary inquiry, the NSW Parliament formed a Select Committee to examine the feasibility of undergrounding of transmission infrastructure for renewable energy projects. The Select Committee re-examining the issue of undergrounding did not request Transgrid make a further written submission, as the considerations were unchanged from the first parliamentary inquiry, however, Transgrid participated in a hearing on 16 February 2024. Transgrid acknowledge both inquiry reports, including the findings and recommendations made. If requested, Transgrid will assist the NSW Government in preparing its response to the Select Committee report on the Feasibility of Undergrounding the Transmission Infrastructure for Renewable Energy Projects.

7.3.2. EIS adequacy and accessibility

Submitter ID numbers

S-63250479, S-63229475, S-63222219, S-62977986, S-63287206, S-63196979, S-63800206, S-63249981, S-63229469

Summary of issues raised

Submitters raised concerns about potential errors and/or inaccuracies in the EIS and supporting documents. Specific comments included:

- the maps are inaccurate, unclear and/or not detailed enough and did not match interactive mapping
- some existing houses within the two-kilometre sensitive receiver study area are not noted in the EIS
- it is disingenuous that the EIS has been released as a carefully researched final document at the same time heritage and biodiversity surveys were still being carried out in October 2023
- there was an error with the options described in PACR and as such the submitter believes any studies completed for Option 3C are invalid.

Response

All maps and figures used in the EIS have been prepared in accordance with the requirements of the SEARs and *State significant infrastructure guidelines – preparing an environmental impact statement* (DPE, 2022a).

The interactive mapping developed for the project was for engagement purposes and did not form part of the EIS. Transgrid used third party location data for the HumeLink interactive map (in this instance, Mapbox). It is used by a large number of applications including interactive maps similar to the HumeLink project. While every effort is made to ensure the integrity of the interactive mapping, it is acknowledged that there are maintenance and technical difficulties with digital tools. Transgrid's other channels of communication including email and the 1800 number were open to answer queries/discuss issues.

The spatial data used in the EIS to show the location of dwellings and other sensitive receivers identified within two kilometres of the EIS project footprint was developed through a combination of publicly available mapping, feedback during consultation activities carried out during the development of the EIS and feedback from Transgrid's Land Access Officers and Place Managers based on their local knowledge. The sensitive receivers spatial data is periodically updated as new information becomes available. This includes adding newly identified receivers and newly constructed residences and correcting any errors identified (eg sheds labelled as residences). Since the EIS, a review has been undertaken to identify any edits and corrections required and the sensitive receivers data has been updated to reflect the amended project footprint (refer to Section 4.4 for further detail).

The EIS presented the findings of heritage and biodiversity surveys that were carried out to support the assessment, and also committed to further survey as required to continue to close information gaps as greater property access, design specificity and/or appropriate survey conditions were identified. Where survey data was not available, the EIS methodology adopted conservative assumptions and modelling. The results of additional surveys carried out for the project have been provided in the Amendment Report. In many cases, Transgrid will continue with survey data collection beyond lodgement of this Submissions Report, such as for threatened species and ecosystems, to inform its biodiversity offset strategy. It is not uncommon for major projects to collect seasonal data beyond the EIS. Should the project be approved, the construction contractors would also be responsible for additional surveys and assessment before construction commences. Ongoing monitoring would also be undertaken during construction in accordance with applicable environmental mitigation measures and any requirements of the conditions of approval.

The RIT-T process was completed with Transgrid publishing the PACR for the project on 29 July 2021. The preferred option identified in the PACR involved constructing new 500 kV double circuit transmission lines in an electrical 'loop' between Maragle, Wagga Wagga and Bannaby (referred to as 'Option 3C').

In November 2021, the AER concluded that Transgrid could reasonably have been expected to include in the RIT-T analysis a full double circuit configuration of Option 1C in order to assess the net economic benefit associated with this option. Consequently, the AER required Transgrid to amend the HumeLink PACR to include:

- a full double circuit option for the path between Maragle and Bannaby as a credible option: Option 1C-new, a variant of Option 1C that involves constructing a new double circuit 500 kV line (instead of two lines) between Maragle and Bannaby
- the estimated capital cost of this option, including the estimated biodiversity offset costs

- a complete comparative cost benefit analysis (with and without competition benefits), including Option 1C-new for each scenario and its impact on the ranking of the credible options assessed in the PACR
- sensitivity analysis for Option 1C-new as assessed for Options 2C and 3C in the PACR, to demonstrate the robustness of the RIT-T modelling outcomes.

Following the additional assessment required by the AER, it was concluded that the preferred option remains a new 500 kV double-circuit lines in an electrical 'loop' between Maragle, Wagga Wagga and Bannaby (ie Option 3C).

Submitter ID numbers

S-63274706, S-63252730, S-63249981, S-63250007, S-63076708, S-63196979, S-63183709

Summary of issues raised

Submitters raised concerns about the accessibility of the EIS, particularly in relation to its size and complexity of information. Specific comments included:

- attended one of the EIS consultation days but was not given a hard copy of the report and could not access the EIS at the library
- many landowners do not have the expertise or time to properly read and respond to the EIS, particularly given its size and the limited exhibition timeframe
- a hard copy of the EIS should have been sent to all impacted landowners and particularly those without internet access at home who found it difficult to access
- the EIS is repetitive and the page numbers are confusing, which makes it harder to comment
- acronyms and words made up of initials are confusing and the full wording should be always used.

Response

The EIS was prepared to meet the requirements set out in the SEARs. The EIS is a comprehensive document with detailed information on many complex topics. As such, the EIS was made more accessible in many ways as described below during the public exhibition. However, Transgrid is always open to hearing ideas for local information distribution and encourage all community members and stakeholders to contact the project team via the 1800 community number and project email address to share this information.

Hard copies of the main body of the EIS were made available at the following council libraries during public exhibition:

- Wagga Wagga City LGA – Wagga Wagga City Library
- Snowy Valleys LGA – Batlow Library, Tumbarumba Library, Tumut Library, Adelong Library
- Cootamundra-Gundagai Regional LGA – Gundagai Library
- Yass Valley LGA – Yass Valley Library
- Upper Lachlan Shire LGA – Crookwell Library, Gunning Library.

Hard copies of the main body of the EIS were also available to view at the community sessions. Hard copies of the main body of the EIS or digital versions of the full EIS on USBs were also provided on request to interested community members.

Transgrid also developed supplementary material to help the community understand the key outcomes of the main body of the EIS in a shorter and less complex format than the full EIS. This included the digital

EIS, an EIS Summary Report and several EIS Fact Sheets. This EIS information was made available both at the community sessions through the public exhibition of the EIS and on the project website.

The digital EIS was developed to support a better understanding of the HumeLink EIS. The digital EIS is a user-friendly and interactive platform, presenting key outcomes of the EIS. This platform delivered interactive mapping, multimedia displays and links to the full EIS on the DPHI Major Projects Portal. Transgrid's Remote Access Community Hub (RACH) brought information to communities and stakeholders across the project footprint during the EIS public exhibition period. RACH was set up outside several of the information session venues during public exhibition of the EIS to increase the visibility and accessibility of the sessions as well as at the 2023 Henty Machinery Field Day. RACH also visited a number of individual properties to provide community members with an additional way to engage with project team members. This also allowed project information to be provided directly to landowners who could not attend in-person community information sessions or had no internet at home.

The statutory duration for public exhibition of an EIS is a minimum of 28 calendar days. DPHI is responsible for determining the timing and duration of public exhibition. For the project, the EIS was initially placed on public exhibition on 30 August 2023 for four weeks. However, following stakeholder feedback, DPHI extended the exhibition closing date from 27 September 2023 to 11 October 2023. This equated to a total exhibition period of six weeks (42 calendar days) to allow additional time for the community to review the EIS documents.

The EIS was developed in line with the *State significant infrastructure guidelines – preparing an environmental impact statement* (DPE, 2022a), which guided its general structure and content. The page numbers in the EIS included the chapter to assist with navigation if the EIS was split out. Abbreviations and acronyms were generally only used where terms were used several times within the EIS and assisted with minimising the length of the document. Any abbreviations or acronyms were spelt out upon first use and compiled in an abbreviations list at the beginning of the EIS document for reference.

Submitter ID numbers

S-61852720, S-63150956, S-63249981, S-63226715

Summary of issues raised

Submitters raised concerns about the lack of specific design details in the EIS (eg transmission line structure locations, access tracks) and the high-level nature of some impacts and mitigation measures, which would only be confirmed during detailed design and have potential to result in additional impacts.

Response

The EIS was prepared prior to engagement of construction contractors and while the design was continuing to be refined in response to ongoing community and stakeholder feedback and to improve environmental and performance outcomes. As a result, as described in Chapter 7 (Approach to assessment of impacts) of the EIS, the EIS assessment approach provided flexibility for the ongoing refinement of design (particularly transmission structure locations and access tracks) and construction methodology whilst maintaining a robust assessment of potential environmental impacts for the project. This included adoption of conservative assessment assumptions, such as assessing that potential impacts could occur anywhere within the transmission line corridor that is generally 200 metre wide, rather than the transmission line easement that would be generally 70 metres wide and located within the 200 metre transmission line corridor.

Since exhibition of the EIS, the design and construction methodology for the project has and will continue to be refined by construction contractors. This has resulted in changes regarding indicative transmission line structure locations and access tracks nominated for the project, which have been discussed and assessed in Chapter 3 (Description of the amended project) and Chapter 6 (Assessment of impacts) of the Amendment Report.

The final design and construction methodology is to be developed and managed in accordance with the approach described in Chapter 26 (Environmental management) of the EIS and the mitigation measures in Appendix B (Updated mitigation measures) which includes:

- the objective of avoiding and minimising impacts throughout all stages of the project
- compliance with the relevant conditions of approval for the project (if approved)
- development of a detailed Construction Environmental Management Plan (CEMP), and associated issue-specific management plans to manage potential environmental impacts during construction. The CEMP and associated management plans are to be approved by DPHI before construction can commence on the transmission line structures and substations
- undertaking work in accordance with the environmental management system (EMS) of the construction contractors (during pre-construction and main construction work) and of Transgrid (during operation and decommissioning).

Submitter ID numbers

S-63150956, S-63150957, S-63266987, S-63190238, S-63219970, S-63250210, S-63250970, S-63190238, S-63250997, S-63252728, S-63236736

Summary of issues raised

Submitters raised concerns about the impact assessment and language used in the EIS. Specific comments included:

- the EIS understates localised negative impacts, lacks transparency regarding impacts and repeatedly concludes that strategies to mitigate impacts can reduce impacts to acceptable levels
- terms such as ‘will mitigate, manage, take appropriate measures, if inappropriately managed, use strategies, rectify, insignificant effect, negligible risks, procedures, minimise risks’ are abstract, meaningless, subjective and do not compel compliance
- wherever a proposed transmission line passes near an area of natural significance, the route should be subject to a comprehensive visual, landscape character and noise assessment
- the term “potentially negatively affected” in regard to Batlow and Wondalga is an understatement
- the EIS did not present a property-specific impact assessment
- lack of complete property access to the project footprint means the EIS is incomplete and a map should be included to show how much of the project footprint was inaccessible
- adopting a conservative approach or a predictive model is considered inadequate and suggests the assessment is only meeting minimum requirements
- have assessments considered workers on agricultural properties regarding work health and safety issues, visual and noise impacts and other risks.

Response

The EIS has been prepared by suitably experienced environmental assessment practitioners and certified by a Registered Environmental Assessment Practitioner (REAP) accredited by the Planning Institute of Australia.

The role of the REAP is to review the EIS and declare that it complies with the requirements set out in the Environmental Planning and Assessment Regulation 2021. For the HumeLink EIS, the REAP was also involved in developing the complete EIS document. Further information on the REAP scheme can be found at: [REAP scheme](#)

The EIS was informed by technical assessments carried out by several specialist consultants (refer to Technical Reports 1 to 18 appended to the EIS). The language used in the EIS is typical of an environmental impact assessment, where a qualitative assessment of impacts or risks is carried out and commentary on the effectiveness of proposed management measures (including established procedures) is required.

Chapter 7 (Approach to assessment of impacts) of the EIS justifies the approach carried out in the EIS in relation to the assessment of impacts. Given the scale of the project and need to consider impacts holistically, a specific impact assessment for each property potentially affected by the project is not feasible. Impacts relevant to specific easement affected properties would be discussed with each landowner during the easement negotiation process for the project. Any localised mitigation identified that is agreed upon would be captured in property management plans where relevant.

Maps showing the extent of survey efforts and discussion justifying any conservative approaches or predictive model approaches have been provided in the relevant technical reports attached as appendices to the EIS. All technical reports prepared for EIS were prepared by suitably qualified and experienced technical specialists to meet the requirements of the SEARs and relevant policies and guidelines.

The project has been developed with the aim of avoiding or minimising impacts where feasible. This has been demonstrated during the following project development stages:

- refinement of the transmission line corridor
- route options assessment
- selection of the proposed Gugaa 500 kV substation site
- identification of potential construction compound and worker accommodation facility locations
- easement negotiations with directly affected landowners
- infrastructure micro-siting in response to landowner concerns, property specific constraints, significant environmental features/areas (biodiversity and heritage).

7.3.3. Other statutory requirements

Submitter ID numbers

S-62494957, S-63277212, S-62910496, S-63226715, S-63250210, S-63274965, S-63249225, S-63274723

Summary of issues raised

Submitters raised concerns about the project's compliance with various statutory requirements. Specific comments included:

- the project has failed under the EPBC Act to avoid and mitigate impacts on matters of national environmental significance (MNES) before offsetting
- aspects of the EPBC Regulations may not have been met including in relation to consideration of options (undergrounding), the strategic context, consultation and social licence
- the project has not met the objective of the EP&A Act by not choosing an underground solution

- queries what authority Transgrid has for compulsory acquisition
- there are obligations under the *Security of Critical Infrastructure Act 2018* and *Security Legislation Amendment (Critical Infrastructure Protection) Act 2022* to consider security and resilience to threats as HumeLink was declared a transmission project of national significance
- the *Energy Legislation Amendment Act 2021* would apply where every hectare of plantation lost for the easement will be compensated with replacement land on a '2 for 1' ratio on a like-for-like basis considering net plantable area, productivity, distance from timber processors and seasonality
- the *Biodiversity Conservation Act 2016* and *Biosecurity Act 2015* discussion in Appendix B.5 contains false information.

Response

As discussed in Chapter 2 (Strategic context and project need) of the EIS, avoidance and minimisation of impacts has been considered throughout project development. For a project of this scale, it is not possible to completely avoid impacts. The mitigation measures proposed need to be reasonable and feasible to effectively minimise impacts. Offsets for biodiversity impacts would only be used as a strategy to address residual impacts once all other measures to avoid, minimise and mitigate impacts have been considered.

Appendix B of the EIS provides an overview of how the project meets the statutory requirements, including the objects of the EP&A Act and the requirements of the EPBC Act. The project does not need to be undergrounded to meet these requirements. As discussed in Section 7.2.1, undergrounding would still have impacts on biodiversity and heritage, which may include impacts on MNES.

The [HumeLink Landowner Easement and Compensation Guide](#) (Transgrid, 2023f) provides an overview of the compulsory acquisition process that can be followed. Section 44 of the NSW *Electricity Supply Act 1995* provides Transgrid (as a "network operator") with the power to acquire land and the NSW Government's *Land Acquisition (Just Terms Compensation) Act 1991* provides the legislation that governs the compensation payable for such acquisition if Transgrid and the landowner do not reach an agreement after a minimum six-month statutory genuine negotiation period.

The provisions of sections 59 and 60 of the *Forestry Act 2012*, which were introduced by the *Energy Legislation Amendment Act 2021*, only impose obligations to ensure a "2 for 1" land replacement when issuing forest permits for "renewable energy infrastructure". This is an obligation that rests with Forestry Corporation and/or the relevant land manager when issuing the permit. Transgrid is in consultation with FCNSW in relation to the acquisition of the interests in land and other approvals/permits required under the *Forestry Act 2012* for the purposes of the HumeLink project. Transgrid will be guided by the provisions of the *Land Acquisition (Just Terms Compensation) Act 1991* when determining the amount of compensation payable to FCNSW for the acquisition of any interests in land. Any forestry permit that may be required for the project will be issued in accordance with any relevant provisions of *Forestry Act 2012* that may apply.

Transgrid confirms that it is aware of the provisions of both the *Security of Critical Infrastructure Act 2018* and *Security Legislation Amendment (Critical Infrastructure Protection) Act 2022*. There are obligations under the *Security of Critical Infrastructure Act 2018* to consider security and resilience to threats as HumeLink was declared a transmission project of national significance. One of the main purposes of HumeLink is to strengthen the resilience of the transmission network in NSW. There is no single point of failure within the HumeLink project because of the ability of the network to function, albeit at a reduced capacity, even if HumeLink was temporarily down.

Comments that the discussion on the *Biodiversity Conservation Act 2016* and *Biosecurity Act 2015* in Appendix B.5 of the EIS contains false information are acknowledged. Appendix B (Statutory compliance

table) of the EIS (which includes Appendix B.5) was reviewed and updated for the amended project and is provided as Appendix C (Updated statutory compliance table) of the Amendment Report.

7.3.4. Community engagement

7.3.4.1. Level and nature of engagement

Submitter ID numbers

S-62494957, S-63267457, S-63236736, S-63222219, S-63252730, S-63250997, S-63233458, S-63252956, S-63252725, S-63249981, S-63226712, S-63274723, S-63249463, S-62406709, S-63065456, S-63253974, S-63146971, S-63250970, S-63274965, S-63229469

Summary of issues raised

Submitters raised general concerns about the level and nature of engagement carried out prior to exhibition of the EIS, including the way engagement was carried out by Transgrid. Specific comments included:

- since the Rod Stowe report, consultation has only marginally improved and after relaying concerns and requests to Transgrid, they appear to fall on 'deaf' ears, when passed further up the line
- the consultation process has been disappointing, inadequate, frustrating and one-sided
- Transgrid has been dismissive, arrogant, dishonest, bullying, untrustworthy and not transparent, open or forthright with relevant information
- Transgrid has exaggerated its attempts to consult and engage with the community
- Transgrid has not sufficiently answered questions or requests and treated people with contempt
- Transgrid has failed to present complete and accurate information to the public and in some cases has provided misleading information
- request for genuine, transparent, and inclusive consultation
- lack of engagement with surrounding landowners that are not easement affected
- Transgrid is not empowering the public in decision-making despite stating this in EIS Figure 6-3
- Transgrid's definition of consultation is telling the community what they are going to do
- the EIS should have had more consultation prior to release
- landowners have been underestimated and not listened to when raising concerns
- not enough detailed engagement to ensure the project minimises impacts
- lack of evidence provided including number of people consulted, feedback received and where landowner feedback has been used.

Response

Transgrid strives to actively involve the voice of the community in our decision-making processes where possible. Transgrid builds positive and lasting relationships with local communities, and creates lasting benefits for customers, communities and the environment as part of its commitment to building a sustainable future.

Ongoing concerns led Transgrid to request a review and report on the HumeLink engagement process by independent community advocate, Rod Stowe. This report, referred to as 'the Stowe Report', was made public in July 2021. Transgrid implemented all 20 recommendations made by Rod Stowe regarding improvements to the engagement processes for HumeLink. Transgrid acknowledges that, at times, we have not met the expectations of our communities. We continually strive to improve our practices, procedures, systems and tools, at both the corporate and project level, to make engagement more accessible and effective.

The *HumeLink Engagement Strategy's* objectives reflect Transgrid's commitment to accountability and genuine engagement as the project progresses. The strategy's objectives (in part) are to:

- work in partnership with local communities and businesses
- listen to feedback, understand community views, and consider how these can deliver a better project
- be accessible and provide engagement that works for communities and considers audiences.

These objectives are guided by eight engagement principles:

- respect and empathy
- fairness and equity
- openness and transparency
- clarity and detail
- inclusivity and accessibility
- working together
- safety
- legacy.

In addition to the ongoing engagement with local communities across the HumeLink project footprint, Transgrid carried out targeted engagement with landowners that are not easement affected by the project but are likely to experience some impact (termed 'near neighbours'). This targeted engagement was conducted between June and August 2023 to make a genuine effort to consider their needs, concerns and encourage participation in the EIS public exhibition period.

Up to mid-February 2024 we have had more than 1,250 meetings and more than 15,000 calls/ emails/ letters with easement affected landowners, letter boxed more than 100,000 newsletters, responded to more than 5,500 community enquiries, and held 74 community information sessions and 29 CCGs.

Chapter 6 (Engagement) and Appendix C (Engagement Outcomes Report) of the EIS provide further detail on the engagement carried out and the feedback received.

Figure 6-3 of the EIS presents the IAP2 Spectrum of Public Participation, which includes varying levels of engagement including 'empower' as identified in the submission. However, most of the engagement during the project's planning stage has been planned and designed across the 'inform', 'consult' and 'involve' levels of IAP2 public participation spectrum rather than the 'empower' level of the spectrum. Inform, consult and involve are all considered valid levels of engagement by IAP2.

Transgrid has made several changes to the transmission line route in response to community suggestions and feedback. Proposed amendments and refinements identified in the Amendment Report arise in part from consultation prior to and during public exhibition of the EIS, and feedback received from submissions received. They include:

- worker accommodation facilities and construction compounds
- Green Hills corridor amendment and minor route refinements
- construction methodology refinements
- access tracks.

Further information on where community feedback has influenced the transmission line route is provided in Section 2.6.1 and Appendix E (Options Report) of the EIS as well as in Chapter 3 (Description of the amendment project) of the Amendment Report.

Transgrid will continue to engage throughout the project – directly with impacted and neighbouring landowners, through councils and reference groups, and more broadly with the community. We are always open to other suggestions and ideas about how we engage, and we encourage people to contact us if they would like to share their thoughts.

Submitter ID numbers

S-63252956, S-63125734, S-63104960, S-63252725, S-63249981, S-63226712, S-63196979, S-63274723, S-63065456, S-63250210, S-63250007, S-63119956

Summary of issues raised

Submitters raised concerns about the level of engagement during the options development and assessment process. Specific comments included:

- lack of discussion or responses regarding landowner requests to move the transmission line route or have surveys on their property to ground-truth local constraints
- options suggested by the community appear to have been ignored (eg undergrounding, alternate Bannaby routes) and responded to with lack of proper investigation in a standardised approach
- lack of landowner communication and justification (including options selection methodology) regarding transmission line route selection or changes on individual properties
- a submitter believed the only way to change a route was to form an action group and put forward an alternative route for consideration by Transgrid
- Transgrid appeared to make options decisions prior to completing engagement
- in 2022, the Yass/Bookham landowners became aware Transgrid was reviewing the route in other regions and requested a similar review, which was initially agreed to and then reneged on
- a landowner east of the Bango Nature Reserve was not aware that they could request a route refinement assessment
- Transgrid has indicated that a route to the west of Batlow is also being considered although this was not declared in the EIS documents and has had lack of consultation.

Response

As discussed in Section 7.2, Transgrid has explored a number of alternative routes and options suggested by landowners and other stakeholders. However, options need to be carefully balanced against overall project requirements as changes on one property can have flow on effects to neighbouring properties. Section 2.6 of the EIS outlines the process for assessing alternatives and options for the project.

HumeLink's Land Access Officers and Place Managers have been actively engaging with affected landowners within the project footprint. They have had more than 1,250 meetings and more than 15,000 calls/ emails/ letters with easement affected landowners to date (as at mid-February 2024). Land Access Officers and Place Managers are available locally and assigned to each of the project's easement-affected landowners. Their meetings with impacted landowners have related to general project progress and updates, property compensation and acquisition, and project amendments and refinements including transmission line route selection and changes on individual properties, including indicative tower locations.

The property team has delivered engagement, route refinement and easement negotiations in line with the preferred approach discussed with the landowner. Any landowner requests or suggested alternative route options raised with the Land Access Officers and Place Managers are taken back to the broader project team for consideration. Where viable, proposed refinements are further investigated.

This includes ongoing investigations and consultation with impacted landowners that led to Transgrid determining the alternate western route through Green Hills State Forest was the most viable route for HumeLink. In December 2022 Transgrid announced it would investigate the feasibility of the alternate route through the Bago and Green Hills State Forest that was put forward by the community with the aim of reducing the impacts on private land, This was described in the EIS in Chapter 2 (Strategic context and project need) and Appendix E (Options Report). In August 2023 Transgrid determined this alternate route to be the most viable route for HumeLink. The original route assessed in the EIS has been amended to this preferred route. The Green Hills corridor amendment has been described in Chapter 3 (Description of the amended project) and assessed in Chapter 6 (Assessment of impacts) of the Amendment Report.

In addition to the Green Hills corridor amendment, a number of smaller changes to the transmission line corridor have been proposed following further engagement with affected landowners and through design development (refer to Chapter 3 (Description of the amended project) of the Amendment Report).

Transgrid also provided detail on the Yass Valley route refinement decision at the May 2023 CCG meeting, which included consideration of Tier 1 and 2 constraints including the Bango Nature Reserve and residential areas of Yass/Bookham. Transgrid continues to engage with landowners, near neighbours, stakeholders and communities via nominated Place Managers and Land Access Officers and through general project communications. Those communications include in-person community information sessions, community information webinars, CCG meetings, RACH street meetings, email, project webpage (newsletters, guides, fact sheets, what we heard reports), social media, electronic direct mail, the 1800 community number, and advertisements in local media.

7.3.4.2. Project infrastructure

Submitter ID numbers

S-62494957, S-63266958, S-62910496, S-62731707, S-63250997, S-63252728, S-63233458, S-63196979, S-63249225, S-63250997, S-63249225

Summary of issues raised

Submitters raised concerns about the level of consultation regarding particular aspects of the proposed infrastructure. Specific comments included:

- lack of consultation and transparency as Gregadoo residences only found out about the proposed Gugaa 500 kV substation and Gregadoo Road compound (C06) in September 2023 and a directly affected landowner was only advised the day before public exhibition, which goes against Transgrid's EIS Community Engagement Objectives
- the engagement in relation to the proposed Gugaa 500 kV substation has been misleading as a landowner was informed two years ago it was no longer required, in August 2023 that it may be needed for future work and in September 2023 that it had been planned for 12 months
- Transgrid did not provide transmission line structure locations when asked by a landowner during geotechnical drilling who was concerned about the work being unnecessary if the location moved
- requests for further detail on transmission line structures, including their type and appearance, have been repeatedly made prior to EIS exhibition but were not provided
- no consultation was undertaken regarding the replacement of the existing section of Line 51, and affected residences had to find out by reading the EIS
- only found out about the telecommunications hut on a neighbouring property after reading the EIS despite asking Transgrid previously and being told the land was needed for an access track only

- the landowner does not know the location of the proposed transmission line structures on their land and how heavy vehicle construction access to those sites is proposed, and is concerned that the indicative locations shown in the EIS appear to be a worst case scenario
- Transgrid has only ever discussed 70 to 80-metre wide easements, however the EIS identifies easements of 110 to 130 metres wide would be required in some areas
- the height of the transmission line structures stated by Transgrid has changed several times, including being stated as 50 to 70 metres in original documents, up to 76 metres in the EIS and up to 85 metres tall by Transgrid in a CCG meeting.

Response

The concerns raised by submitters about the level of consultation regarding particular aspects of the project are acknowledged. As the planning and development of the project has progressed, more information on the project design has become available. Transgrid has endeavoured to provide as much of this information as possible at the time it is available to impacted landowners, near neighbours and the broader community, where relevant and appropriate given the ongoing design and construction methodology refinement.

Transgrid has continued to engage with landowners, and key stakeholders about the proposed Gugaa500 kV substation throughout the development of the project.

During early project development, a number of sites for a proposed 500/330 kV substation in the Wagga Wagga area were under consideration and engagement was limited to the directly affected landowners. As the site selection process evolved, refinements were made to the general locality of the substation site, which was shown on maps and figures. Once a preferred site was identified, the location could not be disclosed immediately due to landholder preferences, privacy considerations, and confidential, commercial negotiations.

Prior to the public exhibition of the EIS, which commenced in August 2023 and throughout the remainder of 2023, Transgrid met with key stakeholders, including near neighbours around the area of the proposed Gugaa 500 kV substation, a number of times. At these meetings, Transgrid provided further information about the substation, including potential impacts and mitigation measures.

Transgrid has continued to engage with affected landowners, near neighbours and the broader community regarding the proposed Gugaa 500 kV substation as part of engagement for the Amendment Report, as minor refinements have been made to the proposed substation location (refer to Chapter 3 (Description of the amended project) and Chapter 5 (Engagement) of the Amendment Report).

The location of transmission line structures and access tracks were not made public during EIS preparation as they were still highly indicative and subject to change as the design was only at concept stage. Indicative transmission line structure locations were provided to landowners who requested this information as part of easement negotiations (with confirmation that these were indicative, best information at the time). These aspects of the project have been and would continue to be refined and confirmed during further detailed design by the construction contractors. An updated transmission line corridor and indicative access track locations for the amended project have been described and assessed in Chapter 3 (Description of the amended project) and Chapter 6 (Assessment of impacts) of the Amendment Report.

The telecommunications hut at Killimicat as described in the EIS is no longer proposed for the project. This change has been reflected in Chapter 3 (Description of the amended project) of the Amendment Report.

The easement for the new 500 kV transmission lines would typically be 70 metres wide. However, a few locations (such as at transposition locations) may require easements up to 110 metres wide and up to 130 metres wide where the new 500 kV transmission line would parallel the relocated section of Line 51.

Transgrid has and will continue to discuss with individually affected landowners where wider easement widths have been identified to be required as part of the easement negotiation process.

As stated in Section 3.3.3 of the EIS, the free-standing transmission line structures would range between 50 metres up to 76 metres in height (from ground level), with an average height of 60 metres high. As further detailed design progresses, there may be select circumstances or locations identified where the height of the transmission line structures may increase above 76 metres. This could be to minimise biodiversity, heritage or property impacts, or improve overall safety outcomes by providing the opportunity to increase the spanning distance between transmission line structures. Any structures that exceed 76 metres in height would be managed in accordance with the change management process described in Section 26.4 of the EIS in consultation with affected landowners.

7.3.4.3. Specific matters

Submitter ID numbers

S-63269210, S-63229475, S-63146971, S-63250210, S-63274965, S-63233458, S-63274723

Summary of issues raised

Submitters raised concerns about the lack of consultation with certain landowner or stakeholder groups and prior to EIS exhibition. Specific comments included:

- lack of community engagement or correspondence with landowners from Transgrid, including contacting all neighbours within two kilometres of the project, despite Transgrid claiming they intended to do this in May 2023
- failed to notify all adjoining landowners of the EIS prior to the start of exhibition
- community meeting for Wagga Wagga on 22 May 2023 was an inappropriate meeting place
- the views of Big Springs Rural Fire Service (RFS) were not sought to inform the bushfire assessment methodology.

Response

Chapter 6 (Engagement) of the EIS provides an overview of the engagement activities that were carried out with landowners, key stakeholders and the broader community throughout the development of the EIS. In addition to ongoing engagement with affected landowners via their designated Place Managers and Land Access Officers, several community information sessions were broadly advertised and held from September 2022 onwards to provide information on the development of the EIS. Webinars were also held, which were open to any interested community member or stakeholder, to provide information on the EIS. A range of information on the project and EIS has also been made available on the HumeLink website.

A letterbox drop was carried out in June and July 2023 prior to the EIS public exhibition for all residences identified within two kilometres of the EIS project footprint (referred to as near neighbours). The letters included details on the project, timeframes, a high-level overview of how construction may impact the community and contact details for the project team. Some properties that were identified as likely to have higher visual impacts and/or be within 500 metres from the project footprint were also contacted via phone or visited.

The EIS was exhibited by DPHI for an initial 28-day period from Wednesday 30 August 2023 to Tuesday 26 September 2023. On 20 September 2023, DPHI advertised a 14-day extension of the public exhibition period ending Tuesday 10 October 2023. The public exhibition was advertised by Transgrid via print, digital, radio and social media, and direct electronic mail as well as on the project website. This combination of advertising and promotion was chosen to best reach those who live, work, or commute through the project footprint and to achieve a diverse reach across demographics and media preferences. Demonstrating a robust engagement process, the EIS advertisement campaign was designed to raise awareness of the EIS public exhibition.

In addition to the advertisement featured in local media outlets, the HumeLink July 2023 Newsletter was emailed to more than 800 project subscribers, easement affected landowners and near neighbours, local information distributors, CCG members and letterbox dropped to more than 11,000 recipients within a 10 kilometre radius of the EIS project footprint.

Notifications to inform easement affected landowners that the EIS was on public exhibition were also sent out in accordance with section 181 of the Environmental Planning and Assessment Regulation 2021.

In addition, to support the public exhibition and provide a better understanding of the EIS, the project team developed a digital EIS – a user-friendly and interactive platform that presents key outcomes of the EIS. This platform delivered interactive mapping, multimedia displays and links to the full EIS on the DPHI Major Projects Portal. The digital EIS provided an engagement tool that landowners and community could engage with in their own time to further understand the project and how to make a submission.

Electronic copies of the EIS were available on the DPHI Major Projects Portal and via the digital EIS that was accessible from the HumeLink webpage. Hard copies of the main body of the EIS were also exhibited at nine local council libraries in five LGAs – Wagga Wagga, Snowy Valleys, Cootamundra-Gundagai Regional, Yass Valley and Upper Lachlan Shire.

All community information sessions held from September 2022, have been organised as drop-in sessions as this gives more flexibility for community members and stakeholders to drop in at a time that best suits them to have one-on-one discussions with members of the project team. The specific location for the community meeting in Wagga Wagga was chosen to allow for better pedestrian traffic and to be more visible to the community for those interested to know more about the project. Five community information sessions were carried out in Wagga Wagga prior to public exhibition of the EIS and three community information sessions were held in Wagga Wagga during public exhibition. Transgrid has also made its RACH available to meet with landowners on request and discuss aspects of the project.

While Transgrid has not engaged with Big Springs RFS specifically on the bushfire assessment methodology, Transgrid has had regular and ongoing engagement with NSW RFS in relation to the project, including developing a collaborative approach to risk assessment and management for HumeLink. Transgrid will continue to work collaboratively with NSW RFS to discuss how it can work together and will continue to develop a partnership that benefits the community and local fire management efforts.

Submitter ID numbers

S-63250479, S-63183709, S-63146971, S-63250997, S-63274723

Summary of issues raised

Submitters raised concerns about the CCGs including the way they were run and their effectiveness as a consultation method. Specific comments included:

- had to register as 'audience only' to attend CCG meetings at Yass and Gundagai
- CCGs have a presentation-style approach with Transgrid doing all the presenting
- had to become a member of the CCG to access relevant information about the project
- witnessed Transgrid fail to answer community questions, or provide incomplete information, with numerous promises to improve community consultation at CCGs
- Transgrid appeared to disregard the consequences of the project for landowners in CCG meetings
- questions on bushfire risk were not answered during Tumut CCG meetings and there was no attendance from members of the RFS, including volunteers
- questions on visual amenity were not answered during Tumut CCG meetings and requests for a visualisation of HumeLink from the towns of Batlow, Tumut and Yass were not actioned.

Response

HumeLink CCGs were established and run in accordance with a defined [Terms of Reference and Code of Conduct](#). The CCG aims were discussed with the three independently facilitated groups and outlined in the Terms of Reference from the outset. These aims are to inform, seek input from key community representatives on key issues, and work directly with stakeholders to address concerns as they are identified throughout all stages of the project. As at mid-February 2024, Transgrid has held 29 CCG meetings.

Both the agenda and presentation for each CCG are circulated ahead of each meeting allowing members the opportunity to provide comment and request any additional topics or points of discussion to be included, including an opportunity to make presentations to the CCG. An independent chairperson facilitates the CCG and while a set agenda is followed, the open forum allows members the opportunity for open and frank discussions throughout the meeting.

If Transgrid is unable to answer a question or provide the requested information, this item is captured as an action or item taken on notice within the CCG minutes and a response provided prior to the next meeting.

Meeting minutes are captured by an independent secretariat and issued within one week of the meeting and circulated to Transgrid and CCG members for comment. Copies of the presentation and meeting minutes can be found on the HumeLink website.

Members may ask the independent chairperson to invite non-CCG members to attend meetings, either as observers or to provide advice to the committee. This may include representatives of government agencies, technical experts or consultants and members of the general public. The independent chairperson is to consult with the other members of the group before issuing the invitation. If there is any disagreement between the members about the invitation, the independent chairperson will have the final say on the matter. Non-CCG members cannot participate in the business of a meeting unless they are invited to do so by the independent chairperson.

Transgrid invited NSW RFS to several meetings including CCG meetings as well as the Bushfire Management Workshop that was held in Tumut in July 2022, however NSW RFS did not respond to any of the invitations or attend any CCG meetings.

In February 2023, Transgrid presented to CCG members on the landscape character and visual impact assessment for the EIS including the private and public viewpoint assessment methodology and preliminary impacts identified.

At this meeting, a number of examples of photomontages were also presented. The viewpoints used to create the photomontages were chosen to represent a range of viewing locations along the transmission line route, from a distance and orientation where the project would be most visible. The photomontage locations were also chosen to illustrate views where the greatest number of viewers would be located. Distant views were not selected as the detail of the model would not be evident and the extent of change in the photograph would be less.

Technical Report 8 – Landscape Character and Visual Impact Assessment of the EIS provides several photomontages from both public and private viewpoints as well as explanation on how the representative locations were chosen. In addition to this, in response to community requests, a photomontage was developed for the Tumut Lookout and is available on the HumeLink website.

In addition to this, in response to community requests, including a request from CCG members, additional photomontages were developed for a number of public viewpoint locations across the project. These included views from Batlow Lookout, Batlow Road, Gocup Road, Snowy Mountain Highway, Tumut Lookout, Yass and Yaven Creek. These are available on the [HumeLink website](#).

Submitter ID numbers

S-63065456, S-63253974, S-63146971, S-63196979, S-62688709

Summary of issues raised

Submitters raised concerns about consultation and engagement surrounding the easement acquisition and access processes. Specific comments included:

- lack of community consultation before issuing easement notices, noting Transgrid commenced easement acquisition negotiations and valuations prior to EIS lodgement
- lack of design and project information, consultation and on-ground assessment before the 70 metre easement map and agreement documents were issued to landowners in 2022
- the EIS states that overall Transgrid has community support, however, to only have access to around 60 per cent of the land after almost three years of negotiations suggests otherwise
- the project's impacts have been downplayed during property negotiations, and the negotiation process has not been balanced
- landowners were provided names of other landowners that had signed access agreements which showed the process lacked confidentiality.

Response

Transgrid's easement negotiation and acquisition process aligns to the *Land Acquisition (Just Terms Compensation) Act 1991*. Extensive landowner engagement is involved in the five-step program:

1. Transgrid establishes a study corridor, contacts all impacted landowners to discuss the project and seek initial feedback. For landowners within the study corridor, Transgrid requires consent to enter the property to carry out preliminary field work including environmental surveys and to gain a better understanding of land use and existing structures in the area. Before we access the landowner's property, Transgrid will work with the landowner to document access, biosecurity, safety and other protocols, which will form part of an access agreement with the landowner.
2. After Transgrid carries out preliminary site investigations and landowner engagement, an indicative 200 metre corridor for the transmission line easement is determined. Transgrid will notify study corridor impacted landowners to confirm whether they are inside or outside of the 200 metre corridor. If the landowner is outside of the 200 metre corridor, this means an easement will not be required on their property. If the landowner is within the 200 metre refined corridor, Transgrid will:
 - Seek to arrange a meeting with the landowner to discuss next steps and provide any additional information requested to help the landowner better understand the acquisition process
 - Instruct valuers to prepare a compensation assessment of the easement interest on the property, which will form the basis of the offer made to the landowner.
3. Issue an offer letter to the landowner to start the negotiation process.
4. After Transgrid issues the Offer Letter to the landowner, the negotiation process starts. Transgrid aims to reach agreement with landowners on the compensation amount. Transgrid and the construction contractor will work with the landowner to establish a property management plan (PMP), for the construction period of the transmission line (as per mitigation measure revised LP2 (refer to Appendix B (Updated mitigation measures)). The PMP will include requirements, for example, fencing, construction access, biosecurity, and restoration or rehabilitation (as applicable). Any short-term impacts or damages arising from the PMP or related to construction activities will be assessed and compensated during or post construction of the project.
5. Transgrid and the landowner agree on compensation.

Refer to the [HumeLink Landowner Easement and Compensation Guide](#)

As part of the easement compensation process, Transgrid has sought to negotiate and enter into an Option Agreement with landowners in exchange for an upfront Option Payment. If project approval is not granted, the Option Agreement (to acquire an easement) will not be exercised and the landowners who have signed option deeds will retain the amount paid. The HumeLink website provides more information on Transgrid's easement compensation process and relevant payments.

Transgrid's Place Managers and Land Access Officers engaged extensively with landowners across the HumeLink project footprint before and during the development of the EIS. Property negotiations have been progressing in parallel to the environmental approvals process for the project. This is common practice for state significant infrastructure projects.

Key project stakeholders, CCG members and the wider community, have been kept informed of route refinement decisions through project briefings. CCG meetings, community information sessions, webinars and via the information available on the project website.

Transgrid is bound by the provisions of the *Privacy Act 1988*. Transgrid also have measures, policies and procedures in place to minimise any risk to privacy breach or sharing of confidential information. The privacy breach concerns raised in the submission are acknowledged. Transgrid treats any breach of confidentiality seriously and will engage with the affected parties directly on this matter.

Submitter ID numbers

S-63266956, S-63252725, S-63253974, S-63287206, S-63146971, S-63250210, S-63250007, S-63196979, S-63274723, S-63800206

Summary of issues raised

Submitters raised concerns about the information provided and acknowledgement of the likely impacts of the project. Specific comments included:

- the noise impact has not been accurately explained as the EIS shows many homes would be impacted by noise during operation, however when previously queried landowners were told noise would not be an issue
- photomontage viewpoint images were not made available to the public until recently and Transgrid failed to provide an image of a 500 kV double-circuit paralleling a 330 kV single-circuit line until August 2022, despite numerous requests
- engagement and initial communication material has been misleading around the size and visual impact of the transmission line structures
- landowners were unaware of the nature and extent of proposed impacts, despite two years of consultation and were advised of different information than that presented in the EIS
- Transgrid has not acknowledged landowners have made an effort to preserve flora and fauna
- Transgrid has failed to care, engage or consult with landowners sufficiently regarding bushfire risk.

Response

Transgrid held several community webinars, presented at CCGs and published EIS fact sheets to provide a high-level overview of the key impacts identified in the EIS prior to public exhibition. In particular, Transgrid held a community webinar in May 2023 that was focused on explaining the key findings of the EIS in relation to noise and vibration. This acknowledged that some sensitive receivers may be impacted by noise from the transmission lines during operation, however the assessment assumptions adopted in the EIS are conservative and impacts are likely to be less than predicted in reality. Since public exhibition of the EIS, the transmission line corridor has been amended in some locations, which has resulted in changes in the operational noise expected from the project. *Technical Report 9 – Noise and Vibration Impact Assessment Addendum* prepared for the Amendment Report provides further information on the operational noise and vibration impacts expected from the amended project. Place Managers and Land Access Officers also continue to have conversations about noise and vibration with affected landowners.

Photomontages were developed for the EIS based on an indicative concept design and were not finalised and available to be provided to the community until closer to EIS public exhibition. Photomontages were made available to landowners prior to EIS being on public exhibition and to the broader public during public exhibition.

During engagement associated with the size and visual impact of the transmission line structures, Transgrid has used existing examples to demonstrate the likely height of the transmission line structures. It is noted that community members and landowners were advised that the proposed transmission line structures would be similar to the Mount Piper to Bannaby 500 kV transmission line as it has heights that

range between 60 to 75 metres. This would be similar to the height of the transmission line structures proposed for HumeLink.

Some initial consultation material used images of 330 kV transmission lines as well as some examples of 500 kV transmission lines. After this was raised by landowners, all consultation material for HumeLink used examples of other 500 kV transmission line structures to avoid confusion.

The detailed design of the project is ongoing and therefore the final transmission line structure locations are not yet determined. Landowners will be communicated with as soon as information is available regarding the final proposed infrastructure locations on their property via Land Access Officers or Place Managers.

The project aims to minimise impacts to flora and fauna, wherever possible. Current and proposed conservation activities carried out by landowners and Landcare groups including native flora and fauna rehabilitation was captured in a 'What We Heard Report' prepared for the project by Transgrid. This information was shared through key project communication channels, direct engagement and consultation.

Transgrid acknowledges the concern from landowners and the community regarding bushfire risk. In response, Transgrid ran a Bushfire Management Workshop in July 2022 with Snowy Valleys CCG to consult with the community on this matter and provide answers to questions in an attempt to explain how the risk would be managed and alleviate concerns. Further information in relation to the Bushfire Management Workshop and responses to the questions raised during the workshop is provided on the HumeLink website⁶. Section 7.4.12.2 provides further responses to specific concerns raised in relation to potential bushfire impacts from the project.

Submitter ID numbers

S-63253974, S-63226712

Summary of issues raised

Submitters raised concerns about the difficulty creating or maintaining a relationship with Transgrid due to a high turnover of staff and with each staff change, landowners have had to start at the beginning and no progress has been made to have queries and concerns addressed.

Response

Transgrid acknowledges the importance of building relationships with landowners. This is reflected in the appointment of a dedicated Place Manager and Land Access Officer for each easement affected landowner within the project footprint. Personnel changes are unfortunately unavoidable and sometimes mean a new Place Manager and Land Access Officer is allocated to a landowner. Transgrid aims to minimise the impact on landowners by carrying out a thorough handover process through its landowner and property database, record-keeping and internal planning. This is designed to record each landowner's engagement history to assist new Place Managers and Land Access Officers.

Place Managers and Land Access Officers bring an invaluable local knowledge and perspective while engaging with affected landowners. Meetings to date have related to general project progress and updates, property compensation and acquisition, and project amendments and refinements including access tracks and accommodation facilities and compounds. Where appropriate, technical experts and the project's

⁶ <https://www.transgrid.com.au/media/pcyj2y3m/humelink-snowy-valley-bushfire-management-workshop-july-2022.pdf>
<https://www.transgrid.com.au/media/3jab3t0k/qa-bushfire-management-workshop-final-0123.pdf>

senior leadership team have also attended face-to-face meetings to discuss specific technical or project-related matters.

Transgrid uses a Customer Relationship Management system to securely record all interactions with affected landowners and ensure we have the history, details and sentiment of those interactions and pertinent updated information of landholders (phone number changes, preferred communication methods, etc). This ensures all engagement is captured and recorded in the event of a team member leaving the project. All team members are trained in this system and consistently briefed on the importance of updating these interactions on a weekly basis.

Submitter ID numbers

S-63269210, S-63229469, S-63249225, S-63274723

Summary of issues raised

Submitters raised other specific concerns about the consultation carried out for the project. Specific comments included:

- Transgrid took nearly six months to respond to the CCG Steering Committee position on HumeLink Undergrounding Study Report, which presented as deliberate delaying tactics as the Office of Environment and Climate Change said it was waiting for Transgrid to respond
- concerns that Transgrid used cash payments to incentivise people to fill in its survey
- landowner offered to share the Biodiversity Assessment Report with Transgrid project employees, but was told that it is not recognising any reports done by privately engaged ecology experts
- concerns regarding the process for developing the worker accommodation through engagement with the community.

Response

The concerns on the time it took Transgrid to respond to the CCG Steering Committee position on HumeLink Undergrounding Study Report is acknowledged. During this period, Transgrid carefully weighed the CCG Steering Committee's feedback on the HumeLink Undergrounding Study Report against technical assessments and the views of other stakeholders. This process ensured the feedback was adequately considered and tested against technical data and other stakeholders' information and lived experiences to provide a comprehensive response. In late 2022, a survey was undertaken by Voconiq, a third-party research organisation engaged by Transgrid to gather information on community sentiment across a broad region beyond just the HumeLink project footprint. The information gathered from the survey was used internally at Transgrid to help improve the way engagement is carried out with communities across the entire Transgrid network. It was not specific to HumeLink, nor was the information gathered from the survey to be used as an external reference for community sentiment either for or against HumeLink.

It is both legal and common practice for research organisations such as Voconiq to use small gifts, such as a voucher, to both incentivise people and to thank them for spending their time to complete a survey. The Voconiq survey offered a \$20 cash gift to participants in Crookwell as an incentive to participate in lieu of a voucher of equivalent value. There were a number of circumstances that led to this outcome, including weather conditions forcing the survey inside and the venue not being able to offer vouchers.

Transgrid appreciates that landowners have engaged third-party consultants to prepare assessment reports for their property. While technical reports prepared for the EIS have considered a range of literature to inform their assessments, this is typically limited to published reports that have followed relevant

guidelines and policies in their methodology. Consideration of assessment reports prepared by third-party consultants engaged by landowners is not preferred. This is because the information presented may not be able to be relied on if it has not been prepared in accordance with relevant guidelines and policies and or industry best practice.

As described in Chapter 4 (Actions taken since public exhibition), Transgrid has identified several proposed amendments and refinements to the project described in the EIS. In responding to stakeholder and community feedback on the likely shortage in existing available accommodation for workers in nearby towns and further construction planning, changes have been proposed to the approach to temporary worker accommodation facilities for the project. Subsequently, five new worker accommodation facilities are proposed as part of the amended project in Tarcutta, Adjungbilly, Yass, Crookwell and Green Hills.

The process for identifying new worker accommodation facilities required engagement with landowners in proximity to the amended project footprint. Further discussion and assessment of the new worker accommodation facilities is provided in Chapter 3 (Description of the amended project) and Chapter 6 (Assessment of impacts) of the Amendment Report. Implementing mitigation measures detailed in Appendix B (Updated mitigation measures) will manage potential impacts during establishment, operation and decommissioning of these facilities.

7.4. Economic, environmental and social impacts

7.4.1. Biodiversity

7.4.1.1. Methodology

Submitter ID numbers

S-62494957, S-62910496, S-63250997, S-63196979, S-63222221, S-62977986, S-63249225, S-62663503, S-63250997, S-63065456, S-63273474, S-63250997, S-63274723, S-63146971, S-63125734

Summary of issues raised

Submitters raised concerns about the adequacy of the biodiversity assessment and the level of information provided, including concerns in relation to:

- survey accessibility, particularly around the proposed Gugaa 500 kV substation and the Bowning area
- biodiversity surveys being done in less than ideal conditions
- the need for a map to show where all survey methods were carried out
- the biodiversity values of Fairy Hole Creek and Derringullen Falls, which have not been considered
- the need for independent expert advice to assess the impact on threatened species
- impacts on species that are assumed present but were not recorded
- native vegetation to be removed from private agricultural land that has not been considered or mapped, particularly from Wagga Wagga to Wondalga section of the project
- the biodiversity assessment does not meet the requirements of the EPBC Act
- biodiversity impacts being rated as low to moderate, which is disagreed with.

Response

Multiple biodiversity surveys were conducted from December 2018 to September 2022. These surveys were used to inform route selection and early concept design as well as the environmental impact assessment process. There were a number of properties that could not be accessed for field survey for the

EIS. The areas that could not be accessed are provided in Section 4.10.1 of *Technical Report 1 – Biodiversity Development Assessment Report* of the EIS. Where an inaccessible location was surrounded by good levels of survey access, it was possible to extrapolate field data to inform the assessment and mapping of biodiversity values. However, for some locations, for example, within the Tumut region, supplementary field and desktop-based methods were implemented to classify and map biodiversity values and assess likely project impacts. Table 4-22 of *Technical Report 1 – Biodiversity Development Assessment Report* of the EIS provides further information on the supplementary field and desktop-based methods.

Since the public exhibition of the EIS, additional field surveys in Spring 2023 and Summer 2023/2024 have been carried out to supplement data and assess impacts associated with the amended project. While some properties remain inaccessible, the field survey extent for the project has increased. Additional supplementary assessment methods are still required to continuously update data. Sections 4.9 and 4.10 of *Technical Report 1 – Revised Biodiversity Development Assessment Report* provide further details on limitations and supplementary assessment methods for the assessment of the amended project.

The survey accessibility for the proposed Gugaa 500 kV substation is shown in Figure 4-1 (map reference 4) of *Technical Report 1 – Biodiversity Development Assessment Report* of the EIS and shows good levels of survey access. The survey accessibility for the Bowning area is shown in Figure 4-1 (map reference 67 to 71). While some properties were not accessible in the Bowning area (eg Figure 4-1 (map reference 70)), adjacent properties had good levels of survey access, which allowed field data to be extrapolated. Survey accessibility for the proposed Gugaa 500 kV substation and Bowning area has remained similar for the amended project.

Section 4.9.2 of *Technical Report 1 – Biodiversity Development Assessment Report* of the EIS discussed the limitations associated with weather and season. Where surveys were affected by weather, eg rainfall experienced in summer surveys in 2021, or were not undertaken during the preferred seasonal window, a precautionary approach was applied to assess biodiversity impacts. This included assumed presence based on habitat suitability and engagement of species experts. Further advice from orchid experts has been sought for the amended project (refer to Table 4-24 of *Technical Report 1 – Revised Biodiversity Development Assessment Report*).

Figure 4-1 and Figure 4-2 of *Technical Report 1 – Revised Biodiversity Development Assessment Report* shows the extent of field surveys relative to the amended project footprint for native vegetation and flora species, and fauna respectively. These figures include surveys undertaken for the EIS and amended project.

Locations of flora and fauna surveys and aquatic habitat assessments in the vicinity of Derringullen Falls (Derringullen Creek) and Fairy Hole Creek are shown in Figure 4-1 (map references 69 and 73) and Figure 4-2 (map references 69 and 73) respectively of the *Technical Report 1 – Biodiversity Development Assessment Report* of the EIS. The outcomes of the surveys and aquatic habitat assessments have informed the assessment of biodiversity values for the project. No further surveys in this area were undertaken as part of the additional field surveys in Spring 2023 and Summer 2023/2024.

Technical Report 1 – Biodiversity Development Assessment Report of the EIS and *Technical Report 1 – Revised Biodiversity Development Assessment Report* have been prepared by accredited personnel in accordance with the *Biodiversity Assessment Method* (DPIE, 2020a) (BAM). The accreditation scheme is designed to ensure that the BAM is applied by people with appropriate ecological skills, knowledge and experience and a demonstrated understanding of the method. DPE is responsible for accrediting assessors

under the scheme. In addition, an expert report was also used to inform the assessment of the Golden Sun Moth (*Synemon plana*), as documented in Section 7.3.4 of *Technical Report 1 – Biodiversity Development Assessment Report* of the EIS. The Department of Planning and Environment engaged an independent advisor to also review *Technical Report 1 – Biodiversity Development Assessment Report* of the EIS prior to public exhibition and comments received from this review were considered in the report as exhibited.

Additional specialist advice and consideration of spatial data provided by NSW Department of Climate Change, Energy, the Environment and Water – Environment and Heritage (NSW DCCEEW Environment and Heritage), Forestry Corporation of NSW, and Orchid Society of Canberra Conservation Group on threatened orchid species has been used to assist with further assessments as part of the *Technical Report 1 – Revised Biodiversity Development Assessment Report*. Additional expert reports were also used to inform the assessment of the Striped Legless Lizard (*Delma impar*), Key’s Matchstick Grasshopper (*Keyacris scurra*) and threatened owls and raptors.

Candidate threatened flora and fauna species not identified during field surveys were conservatively assumed to be present as a precautionary measure for the assessment of biodiversity impacts. However, as noted in *Technical Report 1 – Biodiversity Development Assessment Report* of the EIS and *Technical Report 1 – Revised Biodiversity Development Assessment Report*, many species assumed present are considered to have a low likelihood of occurring within the project footprint. Mitigation measures provided in Appendix B.1 (Updated biodiversity mitigation measures) provide for additional biodiversity surveys to assess the condition of vegetation where threatened species habitat has conservatively been assumed to be present. The surveys will be carried out by a suitably qualified ecologist and will allow for additional impact-reduction opportunities.

The extent of native vegetation within the amended project footprint is shown in Figure 6-1 of the *Technical Report 1 – Revised Biodiversity Development Assessment Report*. The section between Wagga Wagga and Wondalga is shown in Figure 6-1 (map reference 1 to 19, and 43 to 47). As discussed in Section 4.4 of *Technical Report 1 – Revised Biodiversity Development Assessment Report*, the extent of native vegetation was determined through a review of a number of existing spatial datasets and field validation. While some areas of private agricultural land were not accessible during field surveys. Consideration of whether they contained native vegetation was provided from extrapolation of field data on adjoining accessible lands or use of supplementary field and desktop-based methods as detailed in Table 4-25 of *Technical Report 1 – Revised Biodiversity Development Assessment Report*.

As discussed in Chapter 5 (Statutory context) of the EIS, the project was deemed a controlled action and requires approval from the Commonwealth Minister for the Environment and Water under Part 9 of the EPBC Act. DPE issued Supplementary SEARs confirming the project would be subject to the Assessment Bilateral Agreement between the Commonwealth of Australia and the State of NSW dated 26 February 2015 and amended on 24 March 2020 (entered into pursuant to s45 of the EPBC Act). Compliance against the Supplementary SEARs is provided in Table 1-1 of *Technical Report 1 – Revised Biodiversity Development Assessment Report*, which demonstrates how EPBC Act requirements have been met for the assessment of the amended project.

The disagreement with how biodiversity impacts have been rated is acknowledged. As noted above, *Technical Report 1 – Biodiversity Development Assessment Report* of the EIS has been prepared by accredited personnel in accordance with the approved BAM.

Submitter ID numbers

S-63250980

Summary of issues raised

One submitter raised several issues regarding the assessment of threatened orchids. Specific comments included:

- *Caladenia montana* has been excluded as a candidate threatened flora species on inappropriate and contested assumptions
- surveys undertaken for *Prasophyllum* orchid species in the McPhersons Plain area were limited and during sub-optimal survey times
- *Prasophyllum* orchid species in the McPhersons Plain area occur in greater numbers and locations than suggested in the biodiversity assessment, particularly in the swamp area that is crossed by the project
- surveys targeting *Diuris ochroma*, *Prasophyllum bagoense*, *Prasophyllum innubum*, *Prasophyllum keltonii*, *Pterostylis foliate*, and *Pterostylis oreophila* were undertaken during sub-optimal survey times
- surveys for *Diuris aequalis* were undertaken in the Snowy Mountains IBRA subregion outside the known and expected locations of Bungonia and Crookwell IBRA subregions
- the orchid survey work carried out as part of the biodiversity assessment is inadequate to ensure orchids can be sufficiently protected.

Response

Specific comments raised are acknowledged. As discussed in Chapter 4 (Actions taken since public exhibition), *Technical Report 1 – Biodiversity Development Assessment Report* has been revised as part of the Amendment Report to include an assessment of the amended project and addresses issues raised in submissions from NSW DCCEEW Environment and Heritage, DPI Fisheries and the community. Additional field surveys and consultation with NSW DCCEEW Environment and Heritage and DPI Fisheries were undertaken in preparing the revised report.

Based on advice from NSW DCCEEW Environment and Heritage and the submitter, *Caladenia montana* has been included as a candidate species in the revised assessment (refer to *Technical Report 1 – Revised Biodiversity Development Assessment Report*).

The survey times that were counted towards the survey effort for orchid species in *Technical Report 1 – Biodiversity Development Assessment Report* of the EIS are consistent with the seasonal survey requirements for the species in the NSW BioNet Threatened Biodiversity Data Collection (TBDC). Additionally, no surveys were conducted for *Prasophyllum bagoense* for the EIS. However, as part of the revised assessment, additional orchid surveys have been carried out and are documented in *Technical Report 1 – Revised Biodiversity Development Assessment Report*. Reference sites for orchids were checked prior to survey where possible.

The submitter's suggestion that *Prasophyllum* orchid species in the McPhersons Plain area occur in greater numbers and locations than suggested in the biodiversity assessment is acknowledged. As per the data licence agreement with NSW DCCEEW Environment and Heritage, records for sensitive species such as orchids were not included in the figures in *Technical Report 1 – Biodiversity Development Assessment Report* of the EIS. Notwithstanding, the submitter has been consulted during the development of this Submissions Report regarding the location of the threatened orchids in the McPhersons Plain area.

Threatened orchid survey records provided by the submitter in January 2024 have been considered in *Technical Report 1 – Revised Biodiversity Development Assessment Report*.

Diuris ochroma was incorrectly labelled in Table 14-4 of *Technical Report 1 – Biodiversity Development Assessment Report* of the EIS as *Diuris aequalis*. *Diuris ochroma* is from the Snowy Mountains Interim Biogeographical Regionalisation of Australia (IBRA) subregion. This has been corrected in *Technical Report 1 – Revised Biodiversity Development Assessment Report*.

Additional orchid surveys were carried out as part of *Technical Report 1 – Revised Biodiversity Development Assessment Report* to attempt to close out data gaps for orchid surveys where feasible. Presence has been assumed where surveys could not be undertaken. Consultation with NSW DCCEEW has also been undertaken regarding reference sites and confirmed flowering times for candidate orchids, and recent known records of threatened orchids provided by NSW DCCEEW (in February 2024) have been included in the assessment where they intersect with the amended project footprint. Avoidance and mitigation measures will continue to be prioritised during the finalisation of the detailed design to minimise impacts on threatened orchids for the McPhersons Plain area (refer to Appendix B.1 (Updated biodiversity mitigation measures)).

7.4.1.2. Magnitude of impact

Submitter ID numbers

S-62401209, S-62406709, S-63131973, S-62510706, S-63252956, S-63543964, S-63252749, S-63266987, S-63273461, S-62663503, S-63267461, S-63269210, S-63264715, S-62774492, S-62866208, S-62870206, S-63065456, S-62977986, S-63277212, S-63119956, S-62910496, S-63075710, S-63125716, S-62904959, S-63125734, S-63146987, S-63252730, S-63266956, S-63252977, S-63264724, S-63269206, S-63183709, S-63273474, S-63125730, S-63190218, S-63253974, S-63287206, S-62923210, S-62963726, S-63146971, S-63250210, S-63250970, S-63249498, S-63274965, S-63076708, S-63250997, S-63194475, S-63195232, S-63250000, S-63076727, S-64565709, S-63233458, S-63249225, S-63196516, S-63190240, S-63196979, S-63800206

Summary of issues raised

Submitters raised concerns about the large extent of clearing required for the project and the associated significant biodiversity impacts, including loss of native vegetation and impacts to the Wedge-tailed Eagle (*Aquila audax*), other fauna and their habitat. Submitters were also concerned about the potential for flora and fauna species to become extinct due to the project.

Submitters raised concerns about the removal of threatened ecological communities, in particular, the impact on White Box-Yellow Box-Blakely's Red Gum Woodland and Derived Native Grassland TEC. A submitter suggested their property contained one of the last unburnt patches in the area and should be considered of high biodiversity value.

Submitters raised concerns about the significant impacts on specific threatened fauna as a result of the project. A number of species were specially identified, including:

- Little Eagle (*Hieraaetus morphnoides*)
- Gang-gang Cockatoo (*Callocephalon fimbriatum*)
- Glossy Black-Cockatoo (*Calyptorhynchus lathami*)
- Swift Parrot (*Lathamus discolor*)

- Superb Parrot (*Polytelis swainsonii*)
- Grey-crowned Babbler (*Pomatostomus temporalis temporalis*)
- Hooded Robin (*Melanodryas cucullata cucullata*)
- Night Parrot (*Pezoporus occidentalis*)
- Koala (*Phascolarctos cinereus*)
- Squirrel Gliders (*Petaurus norfolcensis*)
- Pink-tailed Legless Lizard (*Aprasia parapulchella*)
- Striped Legless Lizard (*Delma impar*).

Response

Concerns about the extent of biodiversity impacts, including impacts on threatened ecological communities (TECs) and threatened species, due to the project are acknowledged.

As described in Chapter 8 (Biodiversity) of the EIS, Transgrid has sought to avoid and minimise impacts on biodiversity values throughout the development of the project. This has included applying biodiversity criteria during the options selection process and adopting a partial clearing methodology for the transmission line easement. Avoiding and minimising impacts on biodiversity values has also continued for the amended project, with the proposed amendments and refinements resulting in reduced impacts to TECs. Further detail is included in Chapter 6 (Assessment of impacts) and *Technical Report 1 – Revised Biodiversity Development Assessment Report*.

An indicative disturbance area has been used to estimate the extent and magnitude of vegetation clearing required to assess impacts to biodiversity values in the EIS. The indicative disturbance area is based on the concept design. The disturbance area will be refined during further detailed design and construction planning to avoid and minimise impacts on biodiversity values where practicable. As noted in Section 4.9 of *Technical Report 1 – Biodiversity Development Assessment Report* of the EIS, there were limitations associated with field surveys. As a result, a precautionary approach was adopted to meet the BAM requirements and assess impacts on relevant matters of national environmental significance (MNES). As such, the assessment presented in the EIS is considered conservative.

Additional surveys undertaken for *Technical Report 1 – Revised Biodiversity Development Assessment Report* have allowed the precautionary approach and impact descriptions to be refined for the amended project for some species. The extent and magnitude of potential impacts may be reduced further by implementing the mitigation measures detailed in Appendix B.1 (Updated biodiversity mitigation measures).

While not a threatened species, 53 records of the Wedge-tailed Eagle were recorded across all IBRA subregions with the exception of Snowy Mountains IBRA subregion (refer to Attachment 14 of *Technical Report 1 – Revised Biodiversity Development Assessment Report*). Several proposed biodiversity mitigation measures would minimise potential impacts on the Wedge-tailed Eagle using the amended project footprint as part of their habitat range (refer to Appendix B.1 (Updated biodiversity mitigation measures)).

In regard to TECs, Transgrid has sought to avoid and minimise impacts on TECs throughout the development of the project, with TECs being considered a Tier 2 constraint during the transmission line options selection process, as detailed in Appendix E (Options Report) of the EIS.

Further opportunities to avoid or minimise direct impacts on TECs would be considered further during the finalisation of detailed design and construction planning in accordance with the mitigation measures detailed in Appendix B.1 (Updated biodiversity mitigation measures).

The species identified by the community as being of concern are acknowledged. All species, except the Night Parrot, were considered candidate species during the preparation of *Technical Report 1 – Biodiversity Development Assessment Report* of the EIS. With regard to the Night Parrot, this species is listed as extinct in NSW under the *Biodiversity Conservation Act 2016* (BC Act), and therefore was not considered a candidate species.

Eight of the 11 candidate species identified by the community were recorded during field surveys for the project, including Gang-gang Cockatoo, Glossy Black-Cockatoo, Little Eagle, Superb Parrot, Squirrel Glider, Pink-tailed Legless Lizard, and Grey-crowned Babbler. The remaining three species were assumed present for the purposes of the biodiversity assessment due to presence of suitable habitat within the indicative disturbance area.

None of the candidate species identified by the community were considered at risk of serious and irreversible impacts in accordance with the BAM. However, the Gang-gang Cockatoo, Glossy Black-Cockatoo, Striped Legless Lizard, Superb Parrot, Swift Parrot, Pink-tailed Legless Lizard and Koala were identified as likely or potentially being significantly impacted based on significance assessments carried out in accordance with *Significant Impact Guidelines 1.1 - Matters of National Environmental Significance* (Department of Environment, 2013).

Avoiding and minimising impacts on threatened species would be prioritised during further detailed design and construction planning. Appendix B.1 (Updated biodiversity mitigation measures) details a number of mitigation measures that will be implemented to avoid and minimise impacts on threatened species. Additional surveys are proposed in previously inaccessible areas to identify further impact reduction opportunities. Residual impacts would be appropriately offset.

The additional surveys would inform the need for threatened species-specific management plans or additional site-specific mitigation measures to further avoid and minimise impacts. If required, the threatened species-specific management plans would be prepared with consideration of any relevant NSW or Commonwealth Government recovery plan for the community or species.

7.4.1.3. Connectivity impacts

Submitter ID numbers

S-63250970, S-62663503, S-62977986, S-63119956, S-63233458, S-63196979, S-63065456, S-63273461

Summary of issues raised

Submitters raised concerns about impacts on habitat connectivity and existing wildlife corridors, including concerns about:

- loss of native vegetation close to Batlow, as it provides important habitat for fauna and flora in a landscape surrounded by pine plantations and extensive agriculture
- loss of wildlife corridors along riparian zones, particularly those associated with Derringullen, Bowning and Washpen creeks
- greater connectivity impacts, which will be experienced when the project parallels existing transmission lines.

Response

Impacts on habitat connectivity and fauna movement were assessed in Section 13.5.3 of *Technical Report 1 – Biodiversity Development Assessment Report* of the EIS. Further consideration of impacts on habitat connectivity and fauna movement as a result of the amended project is provided in *Technical Report 1 – Revised Biodiversity Development Assessment Report*.

Impacts on habitat connectivity and fauna movement are due to the installation of transmission lines and structures and the clearing of easements. Interaction with transmission line structures and transmission lines may impact aerial species, such as birds and bats, while clearance of vegetation within the easement may create an open-space barrier for terrestrial and arboreal species, such as Koalas and gliders.

As discussed in Section 13.5.3 of the *Technical Report 1 – Revised Biodiversity Development Assessment Report*, while the impacts on fauna movement would be permanent, they will likely reduce over time. This would be due to fauna acclimatising to the presence of the transmission line structures and lines and the implementation of mitigation measures, such as fauna deterrent devices (eg “bird flappers”) to deter aerial species from flying into transmission lines (refer to Appendix B.1 (Updated biodiversity mitigation measures)).

Preliminary Connectivity Strategies for the amended project have been prepared by the construction contractors and would be included in the draft Biodiversity Management Plan (BMP) to be submitted to NSW DCCEEW. The Preliminary Connectivity Strategies include measures to improve/reinstate connectivity at specified locations, including glider poles, retention of vegetation in gullies and shrub retention wherever possible. Glider poles would also provide connectivity across existing transmission corridors where it was not previously provided. Additionally, vegetation retention/avoidance and connectivity opportunities during construction are also included in the strategy and further opportunities to avoid vegetation impacts would be investigated during further detailed design. The final suite of measures to mitigate impacts on habitat connectivity and fauna movement will be detailed in the Connectivity Strategies for the amended project (refer to Appendix B.1 (Updated biodiversity mitigation measures)).

The concerns about the loss of native vegetation close to Batlow and impacts on connectivity are acknowledged. The Green Hills corridor amendment as part of the amended project would avoid the native vegetation to the north-east of Batlow.

While paralleling existing easements could affect connectivity in some areas, it would avoid/minimise additional fragmentation within the broader landscape (refer to Section 12.2 of *Technical Report 1 – Revised Biodiversity Development Assessment Report*). Paralleling also provides visual amenity and accessibility benefits. Potential impacts to connectivity in areas with parallel easements would be minimised through implementation of the Connectivity Strategies for the amended project (refer to Appendix B.1 (Updated biodiversity mitigation measures)).

7.4.1.4. Other biodiversity impacts

Submitter ID numbers

S-63246464, S-63226712, S-63196979

Summary of issues raised

Submitters raised concerns about the spread of weeds and an increase in pest species as a result of the establishment and maintenance of the transmission line easement.

Response

Consideration of impacts from the spread of weeds and increases in pest animal populations on biodiversity values was provided in Section 13.4 of *Technical Report 1 – Biodiversity Development Assessment Report* of the EIS. Impacts from the spread of weeds could potentially occur during construction and operation and be associated with importing materials and the movement of machinery, vehicles and construction/maintenance workers. While it is unlikely the project would result in an increase in pest animal populations, it is possible that native fauna may be more susceptible to predation as a result of vegetation clearing and increased levels of fragmentation within the locality.

Impacts from the spread of weeds and increases in pest animal populations on biodiversity values for the amended project remain consistent with that described for the EIS.

During construction, a Biosecurity Management Plan will be implemented (refer to Appendix B.1 (Updated biodiversity mitigation measures)). The Biosecurity Management Plan will provide weed and pest animal management and monitoring requirements to minimise the potential impacts associated with the spread of weeds and increase in pest populations. During operation, weed and pest control strategies will be guided by existing Transgrid operational management procedures (refer to Appendix B.1 (Updated biodiversity mitigation measures)).

7.4.1.5. Management of impacts

Submitter ID numbers

S-62977986, S-62977986, S-63273474, S-63273474, S-63273474, S-63250980

Summary of issues raised

Submitters raised concerns about how biodiversity impacts are proposed to be managed, including consideration of a reduced transmission line easement width to avoid impacts.

A submitter would also like to assist with the project to ensure that potential impacts on orchids are managed during construction and operation.

Response

Further work to avoid and reduce biodiversity impacts from the project will be undertaken through detailed design finalisation and construction planning, with priority given to avoiding recorded threatened species and their habitat. A BMP will be prepared as part of the CEMP (refer to Appendix B.1 (Updated biodiversity mitigation measures)). This plan will include processes to implement, evaluate and report on mitigation measures for biodiversity impacts during construction. Connectivity Strategies will also be prepared to identify connectivity corridors for fauna movement to minimise potential impacts on fauna movement during operation (refer to Appendix B.1 (Updated biodiversity mitigation measures)). The Connectivity Strategies will build on the Preliminary Connectivity Strategies for the amended project, which would be included in the draft Biodiversity Management Plan to be submitted to NSW DCCEE.

The establishment of transmission line easements is required to safely construct, operate and maintain the transmission line. Transgrid's *Transmission Line Design Standard - Major New Build Rev 2.0* provides the standard tower easement widths to be adhered to for varying voltage and circuit configurations. For the new 500 kV transmission lines, the easement would typically be 70 metres wide; however, some wider easements may be required for areas such as at transposition locations. The easement generally identifies the zone of initial vegetation clearance and ongoing vegetation management to ensure sufficient electrical

clearances during the operation of the transmission lines to provide a safe, reliable network. Narrower easements would have a greater risk of vegetation falling onto the transmission lines and, as such, are not considered feasible due to the associated increased safety and operational risks.

The offer of assistance is acknowledged. As discussed in Section 7.4.1.1, the Orchid Society of Canberra Conservation Group has been consulted during the preparation of Technical Report 1 – *Revised Biodiversity Development Assessment Report* and this Submissions Report. Transgrid will continue to consult further with government agencies and stakeholders, such as NSW DCCEEW Environment and Heritage and the Orchid Society of Canberra Conservation Group, for further assistance with managing potential impacts on threatened orchids where required.

Submitter ID numbers

S-62494957, S-62663503, S-63273474, S-63146971, S-63250000, S-63125730, S-63250479, S-62977986, S-62910496, S-63219970

Summary of issues raised

Submitters raised concerns about the biodiversity offset requirements for the project, including:

- further detail is required on how the biodiversity offsets will be delivered, including the Biodiversity Offset Strategy, assurance offsets will be delivered, the cost of offsets, and details on landowner engagement regarding Biodiversity Stewardship Sites
- biodiversity offsets must be delivered at the location where impacts occur, with the preference not to purchase biodiversity credits
- remnant Yellow Box trees removed as part of the project will not be replaced as per mitigation measure LP2
- the level of offset required for White Box-Yellow Box-Blakely's Red Gum Woodland and Derived Native Grassland threatened ecological community (TEC).

Response

Biodiversity offset requirements for the project will be delivered in accordance with the general approach described in Section 16 of *Technical Report 1 – Revised Biodiversity Development Assessment Report*. The approach proposes a combination of the following offset delivery options in order of preference:

- establishing Biodiversity Stewardship Agreement (BSA) sites on lands with like-for-like biodiversity values to those impacted by the amended project
- purchasing and retiring existing biodiversity credits currently available on the biodiversity credit register or via the Biodiversity Credits Supply Fund and Taskforce
- making a payment into the Biodiversity Conservation Fund for residual credits not sourced from the other options above.

Should the project be approved, Transgrid and the construction contractors must comply with all requirements of the conditions of approval for the project and mitigation measures included in Appendix B (Updated mitigation measures). It is expected that a condition of approval will include requirements to deliver the biodiversity offset obligations for the amended project.

Regarding the offset credit liability for the project, these costs are refined as the amended project disturbance area becomes more certain and the impacts become clearer. This refinement will continue during further detailed design and into construction. In the Project Assessment Conclusions Report (PACR)

as part of the Regulatory Investment Test For Transmission (RIT-T), potential biodiversity costs were estimated at around \$935 million (for the preferred Option 3C). This was a high-level estimate that was mostly desktop based. The most current estimate based on the extent of impacts described in the EIS and factoring in the Green Hills corridor amendment (refer to Chapter 3 (Description of the amended project) of the Amendment Report), is around \$437.47 million. This estimate includes establishing BSA sites from July 2024 to July 2026 and has been reflected in the updated Contingent Project Application No. 2 (CPA2) that was published by the Australian Energy Regulator (AER) in March 2024. An updated offset credit liability for the amended project is provided in *Technical Report 1 – Revised Biodiversity Development Assessment Report*.

Transgrid has been working with offsets specialists to identify potential BSA sites and to engage with landowners who may be interested in establishing a BSA site or selling offset credits. Transgrid has sent out letters and other correspondence to landowners identified within an area of interest for BSA sites and has visited a number of properties for initial site investigations. While the initial focus area centred around the project footprint, finding suitable properties with the most appropriate mix of plant community types/species required the area of interest to be expanded. At the time of writing, Transgrid aims to establish around five BSA sites for the project.

Revised mitigation measure LP2 includes requirements to develop a property management plan (PMP) for directly impacted properties in consultation with landowners (refer to Appendix B (Updated mitigation measure)). This plan may provide for replacement trees as part of the process of restoration or rehabilitation and stabilisation of disturbed areas following the completion of construction. Any replacement trees will need to meet the requirements of Transgrid's *Living and Working with Electricity Transmission Lines*. This measure is not considered part of the biodiversity offset requirements for the project.

Section 15 of the *Technical Report 1 – Revised Biodiversity Development Assessment Report* provides the ecosystem credits that would be required to offset impacts to White Box-Yellow Box-Blakely's Red Gum Woodland and Derived Native Grassland TEC.

7.4.2. Aboriginal heritage

7.4.2.1. Potential impacts

Submitter ID numbers

S-63075710, S-62904959, S-63125734, S-63183709, S-63249498, S-63250997, S-63229469, S-63196979

Summary of issues raised

Submitters raised concerns about potential impacts on Aboriginal heritage sites including:

- an Aboriginal heritage site of significance in the Tarcutta area
- a Ngunnawal culturally sensitive area on Derringullen Creek (including a women's area within Derringullen Falls) as a result of visual and amenity changes from the transmission line
- Mudjarn Nature Reserve, which protects Aboriginal cultural heritage sites, landscapes and other features that have high significance to the local Aboriginal community and are associated with ritual, due to the proximity of the proposed transmission line
- Aboriginal heritage sites within the project footprint, which may be lost by fire if HumeLink prevents firefighting within the easement.

Response

The impacts on Aboriginal cultural heritage have been informed by archaeological field survey and test excavations as well as engagement with registered Aboriginal parties (RAPs). The project aims to avoid impacts on heritage items and sites as a first principle.

Since the public exhibition of the EIS, the project footprint has been amended, and a revised assessment is provided in *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report. Based on the revised assessment, there are 178 Aboriginal cultural heritage sites within the amended project footprint that may be directly or indirectly impacted by the project. Of the 178 Aboriginal cultural heritage sites, there are 88 additional Aboriginal sites and PADs within the amended project footprint compared to the EIS and six sites identified as being impacted in the EIS are no longer impacted. The majority of the sites within the amended project footprint are stone artefact occurrences including artefact scatters and isolated finds. There are also twelve PADs, one modified tree/PAD and five modified trees. In addition, nine cultural trees, six modified trees of non-Aboriginal origin and one cultural site have been identified.

The approach to assessing impacts is based on a worst-case scenario that assumes heritage items could be impacted throughout the entire amended project footprint. However, as there will be opportunities to avoid impact to sites through refining the location of transmission line structures and access tracks at further stages of detailed design, the assessment presented in *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report is considered conservative.

Information has been included in Section 10 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report to detail potential impacts on the two ceremonial sites, the Derringullen Creek Women's Site, Mudjarn Nature Reserve and other culturally sensitive areas.

As discussed in Chapter 3 (Description of the amendments) of the Amendment Report, the transmission line corridor at Bowning was narrowed to avoid traversing the Derringullen Creek Women's Site. However, the amended project footprint includes an existing access track that traverses the site. This track would be used to provide access to a limited number of transmission line structures (two to three) along the transmission line corridor. Minor upgrades of the access track may be required to allow for heavy vehicle access.

Whilst the amended project footprint provides the potential for the construction of a new two-kilometre access track from the transmission line corridor at this location connecting to Black Range Road to the north, this new access track would traverse the property of a new landowner who is not otherwise impacted by the project. Therefore, it may not be feasible to construct this new access track. Noting also other topographic, engineering and environmental constraints (new biodiversity impacts, creek crossings) within the area, other feasible alternatives may not be possible. Notwithstanding, consideration will be given to avoiding the Derringullen Creek Women's site during further detailed design and construction planning in accordance with mitigation measure AH4 (refer to Appendix B (Updated mitigation measures)). Given the other constraints at this location, avoiding impacts on the Derringullen Creek Women's Site may not be possible.

Where impacts to the site cannot be avoided, further consultation with the relevant RAP will be undertaken to seek guidance around minimising and managing the extent of impacts in accordance with new mitigation measure AH15. In addition, mitigation measures AH10 and AH11 (which include briefing workers on heritage sites adjacent to work areas and cultural awareness training) would be implemented to ensure

workers in the area are aware of this culturally sensitive site and the relevant protocols that need to be followed to minimise inadvertent impacts to the site.

The amended project does not traverse Mudjarn Nature Reserve. The reserve is located about 300 metres from the amended project footprint and would not be directly impacted by the amended project. The indirect visual impact to the significance of this site is assessed to be negligible due to the distance from the amended project. Similarly, the two ceremonial sites are located approximately 500 to 800 metres from the amended project footprint and the indirect visual impact to the significance of these sites is assessed to be negligible.

HumeLink is unlikely to increase the potential of Aboriginal heritage items or sites being impacted by fire. Section 7.4.12.2 provides further discussion on bushfire risk.

7.4.2.2. Management of impacts

Submitter ID numbers

S-63250970

Summary of issues raised

One submitter noted that Aboriginal heritage sites and places should be avoided and preserved for future investigation and acknowledgment.

Response

Transgrid acknowledges the need to avoid and preserve Aboriginal heritage sites and places where feasible. The project aims to avoid heritage items as a first principle. Avoiding impacts on Aboriginal heritage has been considered since the corridor and route selection phases of the project. The finalisation of the project design and construction methodology, and associated final disturbance areas, would be developed to further avoid harm to Aboriginal heritage items and sites as far as practicable. The locations of known Aboriginal heritage sites within and adjacent to the amended project footprint and the relevant protocols to avoid and manage any potential harm to the items would be communicated through the Aboriginal Heritage Management Plan (AHMP) to all relevant construction workers prior to construction commencing in that area in accordance with mitigation measure AH10.

Where impacts cannot be avoided, the proposed salvage of surface artefacts and subsurface deposits represents a precautionary measure against the harm to archaeological material at these locations. The recorded finds from these actions would inform an understanding of past human behaviour and the subsequent written record created through the reporting process would create new knowledge. This process is further discussed in Section 12 of *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report and committed to in mitigation measures AH4 and AH10, revised mitigation measures AH2, AH3, AH5, AH8 and AH9, and new mitigation measures AH6 and AH7 (refer to Appendix B (Updated mitigation measures)).

Surveys undertaken for *Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report* of the Amendment Report have also included test excavations of PADs. The finds from the test excavation program have contributed to improving the knowledge and understanding of the archaeology and heritage significance of the area.

In addition, all Aboriginal heritage sites that have been recorded as part of the surveys for the EIS project and amended project have been recorded on the Aboriginal Heritage Information Management System (AHIMS) in accordance with the requirements of the *National Parks and Wildlife Act 1974*. The AHIMS is a database maintained by NSW DCCEEW, which contains information about Aboriginal objects and places in NSW, including site records and cultural heritage assessment reports. The AHIMS assists with managing and conserving Aboriginal heritage sites and is also used for research and studies.

Submitter ID numbers

S-63252956

Summary of issues raised

One submitter raised concern that the Aboriginal cultural heritage assessment does not take into account worker safety.

Response

The Aboriginal cultural heritage assessments for the EIS and amended project have been prepared to address the SEARs in accordance with *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW, 2010a), *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010b), and *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (Office of Environment and Heritage (OEH), 2011).

Transgrid prioritises worker safety at all stages of the project in accordance with the [Health and Safety Policy](#) that outlines the safety principles and commitment to complying with relevant legislation, codes of practice and industry standards. The construction contractors will undertake all construction work in accordance with Transgrid's *Health and Safety Policy* (2024a), the Work Health and Safety Management Plan developed for the project and the relevant work health and safety legislation, codes of practice and industry standards.

7.4.3. Non-Aboriginal heritage

7.4.3.1. Methodology

Submitter ID numbers

S-63249225

Summary of issues raised

A submitter queried whether assessments against the *Material Threshold Policy* (Heritage NSW, 2020) have been carried out.

Response

The *Material Threshold Policy* (Heritage NSW, 2020) only applies to non-Aboriginal heritage items listed on the State Heritage Register (SHR). No items listed on the SHR are located within the project footprint or the amended project footprint. The closest SHR listed item is Hillas Farm Homestead and Outbuildings, which is located about 100 metres from the amended project footprint. There would be no direct impact to this item, however there would moderate to low level of visual impact from the amended project as detailed in *Technical Report 3 – Historic Heritage Impact Assessment Addendum* of the Amendment Report. Overall, there would be a negligible impact to this item from the amended project. As such, and consistent with

Table 2 of the *Material Threshold Policy*, the material threshold has not been reached, and the policy is not required to be considered.

7.4.3.2. Existing environment

Submitter ID numbers

S-63250997, S-63226712, S-63196979, S-63249498, S-63249225

Summary of issues raised

Submitters raised concerns about the consideration of particular items of non-Aboriginal heritage significance. Specific comments included:

- lack of consideration of ‘generational heritage’, including the soldier settlement blocks of Ellerslie Station, Landcare projects by family members and communities, property infrastructure built by early farmers and family members and private cemeteries as they are not listed
- lack of consideration of Clear Hill (home of Millicent Armstrong Australian playwright), Bellevalle with links to Hamilton Hume, a small quince tree orchard and a rubble house site
- a tree hundreds of years old should be considered to have non-Aboriginal heritage significance
- omission of Hillas Farm Homestead and Bannaby Homestead
- wrong information for the date of property ownership for European history sites.

Response

Technical Report 3 – Historic Heritage Impact Assessment of the EIS included items of potential heritage significance not listed in a heritage register or inventory. These items were identified through a literature review, community feedback and site inspections of accessible land.

The soldier settlement blocks forming part of the historical context are acknowledged in Sections 5.5.5 and 5.7.1 of *Technical Report 3 – Historic Heritage Impact Assessment* of the EIS. Hillas Farm Homestead and Outbuildings, which is listed on the SHR and in the Upper Lachlan Shire Local Environmental Plan 2013 (Upper Lachlan LEP), is acknowledged and assessed in Sections 3.2.1, 3.2.3, 5.7.5 and 8.1.2 of *Technical Report 3 – Historic Heritage Impact Assessment* of the EIS. Bannaby Homestead (spelt Bunnaby Homestead), listed in the Upper Lachlan LEP, is acknowledged and assessed in Sections 3.2.3, 5.7.5 and 8.1.2 of *Technical Report 3 – Historic Heritage Impact Assessment* of the EIS.

Other items raised by submitters, for example Clear Hill, Bellevalle and Ellerslie Station, were not surveyed as part of *Technical Report 3 – Historic Heritage Impact Assessment* of the EIS. However, based on a desktop review of aerial imagery and publicly available information, the associated homesteads appear to be greater than 450 metres from the amended project footprint, and therefore due to the distance the existing structures would not be affected by the project.

With regard to the small quince tree orchard and a rubble house site, the submitter had previously provided three GPS coordinates of potential items of heritage significance for assessment in *Technical Report 3 – Historic Heritage Impact Assessment* of the EIS. Two items were located and are included as Potential Historic Site 1: Sheep dip and well (refer to Section 6.4.1 of *Technical Report 3 – Historic Heritage Impact Assessment* of the EIS), but the third item assumed to be the small quince tree orchard and rubble house site could not be located. However, the GPS coordinate for the third item is about 280 metres north of the project footprint and 130 metres east of an access track proposed as part of the amended project. Similarly to Historic Site 1: Sheep dip and well, the third item is not likely to meet any of the criteria for heritage significance.

The age of a tree does not necessarily mean it would have non-Aboriginal heritage significance, and it would need to be assessed against criteria included in NSW DCCEEW's *Assessing heritage significance: Guidelines for assessing places and objects against the Heritage Council of NSW criteria* (DPE, 2023d). To be considered to have non-Aboriginal heritage significance, the tree would need to have natural, aesthetic, scientific, social, spiritual or historical connections. The trees assessed in *Technical Report 3 – Historic Heritage Impact Assessment* of the EIS and *Technical Report 3 – Historic Heritage Impact Assessment Addendum* of the Amendment Report were not found to meet the criteria for heritage significance.

Regarding claims of the wrong information for the date of property ownership for European history sites, the submitter has not identified which specific date is in question. Notwithstanding, *Technical Report 3 – Historic Heritage Impact Assessment* of the EIS reviewed various archaeological and historical data to provide background and context to the assessment. The review of documentary sources included heritage registers and schedules, local histories, and archaeological reports. Sources of historical information included regional and local histories, heritage studies and theses, parish maps, and Crown plans, where available. Referencing of the source of information is provided throughout *Technical Report 3 – Historic Heritage Impact Assessment* of the EIS as footnotes.

7.4.3.3. Potential impacts

Submitter ID numbers

S-63065456, S-63075710, S-62904959, S-63125734, S-63183709, S-63250970, S-63250997, S-63226712, S-63249225

Summary of issues raised

Submitters raised concerns about impacts to non-Aboriginal heritage, including both direct impacts and indirect impacts through visual impacts and amenity changes, including:

- the project would impact several non-Aboriginal heritage sites in the Bannaby area including the Hillas Farm Homestead, Cross Station graves and Historic Adavale homestead
- the project's overshadowing and noise impacting non-Aboriginal heritage sites in the Wagga Wagga region
- the conclusion that indirect visual impacts are expected to have a negligible impact on the heritage significance of non-Aboriginal heritage sites was challenged
- Transgrid's right to determine impact significance is queried
- serious impacts on the heritage significance of the Australian Alps National Parks and Reserves.

Response

Technical Report 3 – Historic Heritage Impact Assessment of the EIS has been prepared to address the SEARs in accordance with principles of *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, 2013* ('the Burra Charter', Australia ICOMOS 2013), and the following guidelines:

- *NSW Heritage Manual* (NSW Heritage Office, 1996)
- *Assessing Heritage Significance* (NSW Heritage Office, 2001)
- *Statements of Heritage Impact* (Heritage Office & Department of Urban Affairs and Planning, 2002)
- *Assessing Significance for Historical Archaeological Sites and 'Relics'* (Heritage Branch, Department of Planning, 2009).

Since the public exhibition of the EIS, *Technical Report 3 – Historic Heritage Impact Assessment Addendum* of the Amendment Report has been prepared to assess any additional or changed impacts

expected on non-Aboriginal heritage as a result of the amendments to the project. There has been no change to potential impacts for Cross Station graves, Historic Adavale homestead, Australian Alps National Parks and Reserves and other non-Aboriginal heritage sites mentioned by submitters as a result of the amended project. However, impacts to Hillas Farm Homestead have been revised from 'no impact' to 'negligible impact' following consideration of potential indirect impacts of the amended project (refer to Section 7.4.3.1).

The project aims to avoid historic items as a first principle with infrastructure being located to avoid sites, where possible. As discussed in Section 10.6.2 of the EIS, the project footprint has been refined during preparation of the EIS to avoid direct impacts to the Snowy Mountain Scheme and the Australian Alps National Parks and Reserves. Avoidance or minimisation of impacts will continue during detailed design as the final transmission line structure positions and access track alignments will be further refined, which will consider the location of historic items and strategies to minimise impacts where practicable.

Indirect impacts (such as visual impacts as a result of visual changes in the landscape) may occur to areas beyond the amended project footprint however, depending on the site type, context, and its archaeological and cultural significance, may not result in a loss of heritage value. Construction and operation planning and management for the project would ensure that indirect impacts that could potentially result in a loss of heritage value would be avoided where practicable.

7.4.4. Land use and property

7.4.4.1. Methodology

Submitter ID numbers

S-63250479, S-63119956, S-63250997, S-63249225, S-63250210, S-63146971, S-62731707

Summary of issues raised

Submitters raised concerns about the adequacy of the agricultural assessment and the methodology used to determine impacts, including:

- the experience and qualifications of the agricultural consultant used to assess the project's impacts is queried
- the assessment on agricultural impacts was not detailed enough and impacts to aerial agricultural operations will be greater than expected
- impacts were presented with too much focus on comparing project impacts against the study area and the use of percentages to quantify impacts made them appear minor
- biosecurity impacts on properties due to construction vehicles and machinery have not been considered
- further acquisition and assessment must be undertaken if vegetation management is required outside the transmission line easement.

Response

Technical Report 4 – Agricultural Impact Assessment of the EIS and *Technical Report 4 – Agricultural Impact Assessment Addendum* of the Amendment Report have been prepared by Tremain Ivey Advisory. The author is a suitably qualified and experienced agricultural consultant with over 35 years of experience, including carrying out agricultural assessments for several other State significant infrastructure projects.

The methodology for *Technical Report 4 – Agricultural Impact Assessment* of the EIS included landowner consultation and property inspections to understand the agricultural enterprises and landowner perceived impacts to agriculture. Other consultation with stakeholders to identify the main biosecurity risks associated with the project were undertaken by telephone with local government weed officers. An assessment of the indicative concept design (available at the time of development of the EIS) for the project was based primarily on desktop information, consultation with landowners and other stakeholders, property inspections and professional knowledge/industry accepted assumptions. As per revised mitigation measure LP2, a PMP will be developed for directly impacted properties and this will outline the biosecurity and other protocols to be implemented to address landowner concerns and minimise and manage impacts during construction (refer to Appendix B (Updated mitigation measures)).

Potential impacts on aerial agricultural operations due to the project have been considered since the corridor and route selection phases of the project as detailed in Appendix E (Options Report) of the EIS. The assessment of the potential impacts on aerial agricultural operations in the EIS was informed by *Technical Report 4 – Agricultural Impact Assessment* and *Technical Report 14 – Aviation Impact Statement* of the EIS. Both assessments have been undertaken to meet the requirements of the SEARs. *Technical Report 4 – Agricultural Impact Assessment* of the EIS assessed the restrictions to aerial agricultural operations due to the transmission line structures and transmission lines and how that could affect agricultural productivity. Whereas *Technical Report 14 – Aviation Impact Statement* of the EIS assessed the safety risks to aerial agricultural operations, including the use of nearby aircraft landing areas, from construction and operation of the project. In addition, potential cumulative impacts from HumeLink and other nearby wind farm projects on aerial agricultural operations were also considered in Chapter 25 (Cumulative impacts) of the EIS. Overall, the assessments concluded that the potential impact on aerial agricultural operations would be localised and minor. In accordance with new mitigation measure LP8, consultation would be undertaken with relevant landowners who utilise aerial farming operations to identify appropriate mitigation arrangements (where feasible) such as the installation of aerial warning markers on the transmission lines (refer to Appendix B (Updated mitigation measures)).

Comparison of project impacts to the existing environment within a defined area (the study area) is common practice in environmental impact assessment and allows for both local and regional impacts to be differentiated. Two study areas (ie the project footprint and the agricultural study area) were used in the assessment of agricultural impacts as detailed in Section 4.2 of *Technical Report 4 – Agricultural Impact Assessment* of the EIS. The project footprint allowed for consideration of direct impacts whereas the agricultural study area allowed for consideration of direct and indirect impacts and provided context for the understanding of agricultural land uses in the local government areas (LGAs) surrounding the project. Where percentages have been used to provide a comparison of project impacts across the surrounding area, an area of impact is also included.

It is also acknowledged that impacts to an individual's property may not be perceived as minor by the affected landowner or agricultural enterprise. However, a PMP will be developed to minimise and manage the impacts to the affected properties/agricultural enterprise and manage any specific concerns during construction (refer to revised mitigation measure LP2 in Appendix B (Updated mitigation measures)).

Construction vehicles and machinery were considered when assessing biosecurity impacts as detailed in Sections 6.2 and 7.2 of *Technical Report 4 – Agricultural Impact Assessment* of the EIS. During construction, vehicles (especially tyres) and machinery could be potential carriers of weeds, plant material and diseases. The biosecurity risks would be highest during construction due to disturbance of ground cover and soil from earthwork and the greater frequency of vehicle and machinery movements. There is potential that maintenance and operation of the project may introduce or spread weeds, plant material and

diseases. However, the risk during operation would be lower as there would be fewer vehicle and machinery movements and limited ground disturbance. Property-specific biosecurity management measures would be developed in consultation with affected landowners and documented in the PMP. Revised mitigation measure LP4 has been developed to address the potential impact from biosecurity and will be implemented to minimise the risk of off-site transport or spread of disease, pests and weeds (refer to Appendix B (Updated mitigation measures)).

Work outside the transmission line easement would be limited to the management of hazard trees. Potential hazard trees (defined as the hazard tree zone in the EIS) have been considered in the EIS vegetation clearing estimates. The hazard tree zone encompasses land located adjacent to the transmission line easement where selective tree removal, trimming or lopping would be undertaken to manage any risk of damage to transmission lines and structures in the event of tree fall. Potential hazard trees would be inspected by a suitably qualified arborist to determine the appropriate management response, which could include felling, pruning, or no action (if the inspection confirms that a potential hazard tree is of no risk to the transmission line). Work on hazard trees would be undertaken by a qualified arborist in consultation with the relevant landowner in accordance with section 48 of the *Electricity Supply Act 1995*.

7.4.4.2. Existing environment

Submitter ID numbers

S-63241956, S-63250007

Summary of issues raised

A submitter highlighted the Moomba to Sydney Ethane Pipeline and Moomba to Wilton Pipeline are crossed by the project footprint and requested specific consideration. In addition, another submitter suggested a high-pressure gas pipeline runs between the Visy pulp and paper mill and Tumut is also crossed by the project.

Response

The information provided by submitters on gas pipelines is acknowledged. Preliminary Before You Dig Australia (BYDA) investigations confirmed two APA Group gas pipelines associated with the Moomba-Sydney Pipeline System intersect the amended project footprint at Gadara Road, Gadara and at Dalton near Felled Timber Road. The preliminary BYDA investigations also identified a Jemena gas pipeline, which is intersected by the amended project footprint at Cooks Hill Road, Bango.

Consistent with the process described in Section 4.2.1.2 of the EIS, potential impacts on the gas pipelines would be confirmed during detailed design finalisation and further construction planning. While the final transmission line alignment is likely to cross gas pipelines and other utilities, new mitigation measures LP9 will manage any required protection or relocation of services and utilities in consultation with utility providers (refer to Appendix B (Updated mitigation measures)). Transgrid will consult further with APA Group and Jemena regarding the pipelines and any requirements during further detailed design. Further consideration of the gas pipelines and interactions with the amended project is provided in Chapter 6 (Assessment of impacts) of the Amendment Report.

7.4.4.3. Agricultural productivity impacts

Submitter ID numbers

S-63151711, S-63065456, S-63125734, S-63146971, S-62963726, S-63250210, S-63252977, S-63253974, S-63146971, S-63252956, S-62663503, S-63269216, S-63264724, S-62977986, S-63274723, S-63194462, S-62406709, S-63222221, S-63266987, S-63222219, S-63075710, S-62976708, S-63274706, S-63252749, S-63264715, S-63236736, S-63236479, S-63190238, S-62870206, S-63271464, S-63226712, S-63194475, S-63140711, S-63148207, S-62923210, S-63252730, S-62904959, S-63146971, S-63065456, S-63196979, S-63269210, S-63543964, S-63125730, S-63267461

Summary of issues raised

A number of submitters raised concerns about the impacts on agricultural land, including impacts on current operations and infrastructure (eg irrigation systems) and decreased productivity during the construction and operation of the project. Some submitters suggested agricultural productivity will also be affected by soil compaction and potential contaminated runoff and spills.

Response

The concerns about impacts on agricultural land and agricultural productivity are acknowledged. Transgrid is committed to working with landowners to minimise, mitigate and manage these impacts.

The matters raised by submitters were considered in detail in *Technical Report 4 – Agricultural Impact Assessment* of the EIS and summarised in Chapter 11 (Land use and property) of the EIS.

Potential impacts on agricultural land uses during construction include temporary removal of agricultural land from production, movement restrictions, disruption to agricultural activities, increased biosecurity risks, inadvertent impacts to crops and pastures or farm infrastructure, and disturbance of livestock. However, while several potential construction impacts have been identified, they would be temporary. Construction activities are expected to have a minor impact on agricultural productivity within the surrounding LGAs overall. A range of mitigation measures are proposed to minimise impacts on agricultural land from the project. This will include the development and implementation of PMPs for directly impacted properties in accordance with revised mitigation measure LP2 (refer to Appendix B (Updated mitigation measures)).

In accordance with revised mitigation measure LP2, Transgrid will continue to engage with affected landowners to establish the necessary property arrangements. Direct impacts on property and existing land uses during construction (including current operations and infrastructure such as water supply or irrigation systems) will be managed in accordance with PMPs developed in consultation with affected landowners. These PMPs would also include specific measures to minimise disruption to agricultural activities and address landowner concerns during construction, including a process for restoration or rehabilitation of disturbed areas following the completion of construction. Opportunities for micro-siting of transmission line structures and access tracks will be ongoing through discussions with affected landowners during the development of PMPs. In addition, mitigation measure SC4 will manage potential contaminated runoff and spills (refer to Appendix B (Updated mitigation measures)).

Regarding soil compaction from construction of the project, it is not expected that this would affect the intrinsic capability or physical characteristics of soil or land as noted in Section 11.4.2.2. of the EIS.

During operation, the land within transmission line easements, and immediately next to the proposed infrastructure could continue to be used for some agricultural activities such as grazing. However, permanent transmission line infrastructure would result in some restrictions on agricultural operations. As discussed in Section 11.5.2.5 of the EIS, the presence of transmission line structures in areas of cropping land would disrupt normal husbandry operations around the structure. Usual cultivation, sowing and spraying travel patterns would be required to be adjusted to avoid the structure, and care would need to be taken to avoid collisions when using wide farming equipment. During operation, agricultural activities within or near the easement would need to be undertaken in accordance with Transgrid's *Easement guidelines – Living and working with electricity transmission lines*. The final location of permanent infrastructure would influence the amount of land permanently affected and the associated impacts on agricultural practices.

Following the public exhibition of the EIS, several amendments and refinements to the project have been proposed, which have changed the magnitude of land use and property impacts presented in the EIS. Potential impacts from the amended project on land use and property are considered in Chapter 6 (Assessment of impacts) and *Technical Report 4 – Agricultural Impact Assessment Addendum* of the Amendment Report. The total agricultural area affected by construction would represent an increase of 404.8 hectares compared to the corresponding amount for the EIS project (an 18 per cent increase). This is primarily due to the nomination of new and upgraded access tracks. It should be noted that most of the access tracks proposed to be upgraded would already impact the agricultural production of the land on which they are located. Therefore, the impact of the amended project on areas of agricultural productive land presented in the assessment are conservative and likely overestimate the potential impact on agricultural production.

The value of agricultural production loss for the amended project is assessed at approximately \$1,482,523 over a 2.5-year period of construction related disruption. This compares to the corresponding EIS project amount of \$837,800. The increase mainly arises from the additional access tracks for the amended project.

Overall, the impact of the amended project on agricultural production would be minimal during operation due to the small area affected, ie 593.4 hectares (which is equivalent to 0.04 per cent of the total size of agricultural enterprises within the five impacted LGAs) and the application of mitigation measures. In addition, mitigation measure LP6 and new mitigation measure LP8 will assist in managing potential residual impacts on agricultural production (refer to Appendix B (Updated mitigation measures)). Mitigation measure LP6 includes the consideration of rectification measures in consultation with the relevant to manage impacts on agricultural precision farming that are reported within 12 months of operation. Whereas new mitigation measure LP8 will assist in managing potential impacts on aerial farming operations by identifying appropriate mitigation in consultation with relevant landowners.

Submitter ID numbers

S-63250970, S-63274965, S-62963726, S-62923210, S-63196516, S-63250210

Summary of issues raised

Submitters raised concerns about the project's impact on regional agricultural production, particularly around Batlow, and its contribution to Australia's food security. In addition, a submitter claimed that the project would affect Australia's farm produce by up to 25 per cent due to the easements required through prime agricultural land. It was also suggested that impacts on biophysical strategic agricultural land (BSAL) and State significant agricultural land (SSAL) are considered significant, and all measures to avoid this impact need to be undertaken.

Response

The concerns about impacts on regional agricultural production are acknowledged. Transgrid is committed to working with landowners to minimise, mitigate and manage these impacts.

The direct impact of the project on agricultural production would be minimal during operation due to the small area affected relative to total size of agricultural enterprises within the 'impacted LGAs' as defined in *Technical Report 4 – Agricultural Impact Assessment Addendum* of the Amendment Report. As per the amended project, the area of agricultural land use that would be lost during operation of the project is estimated at 593.4 hectares. This is equivalent to 0.04 per cent of the total area of agricultural holdings in the impacted LGAs. This estimate is believed to be highly conservative given some agricultural practices, such as grazing, could continue within the transmission line easement and immediately next to proposed infrastructure as noted in the response above. At a regional scale, the project is unlikely to impact Australia's farm produce and food security, particularly when considering the amended project including the Green Hills State Forest route realignment avoids agricultural land around Batlow.

There would be relatively little change to the amount of BSAL within the amended project footprint compared to the EIS project footprint. The amended project footprint includes 509 hectares of BSAL, an increase of 14 per cent on the EIS value of 477 hectares, however this is considered conservative as most of this increase is largely related to the inclusion of additional access tracks which are existing access tracks requiring upgrade that would already impact the agricultural production of the land on which they are located. Additionally, some access tracks may not be required during operation and could be returned to their former use. Therefore, the impact of the amended project on areas of agricultural productive land are considered conservative and likely to overestimate the potential impact on agricultural production. Similarly, there would be a small increase in draft SSAL within the amended project footprint to 631 hectares compared to the 534 hectares of the EIS project footprint. This is an increase of 18.2 per cent on the EIS value. However, as for BSAL, the impact on SSAL would be minor due to the small area involved.

Submitter ID numbers

S-62663503, S-62977986, S-62910496, S-63146971, S-63190238, S-63196979, S-63274723, S-63249498, S-63252730, S-63252977, S-63065456, S-63250997, S-63183709

Summary of issues raised

Submitters raised concerns about the project's impact on livestock, which may cause distress to the animals. Specific comments included:

- noise from the project will impact livestock
- livestock will be at risk of impact during construction as construction zones are not intended to be fenced or livestock relocated
- clearing established trees will remove shelter and shade for livestock
- dust generated from potentially contaminated land within the project footprint will impact merino wool quality and value.

Response

The concerns about impacts on livestock are acknowledged. Transgrid is committed to working with landowners to minimise, mitigate and manage these impacts.

As detailed in sections 6.7 and 7.7 of *Technical Report 4 – Agricultural Impact Assessment* of the EIS and summarised in Section 11.4.2.5 of the EIS, during construction, potential impacts on livestock would be primarily associated with construction noise and vehicle movements. Livestock can generally adapt to such disturbances; however these construction activities could impact livestock during specific circumstances, such as during calving and lambing periods. The effects of which on productivity is expected to be relatively minor.

As detailed in revised mitigation measure LP2, individual PMPs will be developed for each directly impacted property in consultation with landowners. The PMPs will outline the protocols that will be implemented to address landowner concerns during construction. This may include measures to minimise disruption to agricultural practices during construction; agreed timing and location of works to limit disruption of landowner activities and fencing and gate requirements.

The need for exclusion fencing and other security/protection measures around worksites would be determined on a case-by-case basis. Risk assessments undertaken at each work site by the construction contractors would consider individual landowner requirements to determine the most appropriate protection measures (such as livestock protection fencing).

The concern that the removal of vegetation may impact the availability of shade or shelter is acknowledged. Where this is unavoidable, PMPs may also provide for replacement trees as part of restoration or rehabilitation of disturbed areas following the completion of construction; which would provide shade and shelter for livestock. Any replacement trees will need to meet the requirements of Transgrid's *Living and Working with Electricity Transmission Lines* and the provision of any replacement trees would form part of property negotiations.

The main potential impacts to livestock during operation would be disturbance from noise and vehicle movements similar to the potential impacts during construction. These impacts however would be lower during operation due to a lower intensity of personnel and vehicle movements required for maintenance activities. There may be some impact on livestock movement and husbandry activities if stockyards and loading facilities are located close to the transmission structures. In these cases, facilities may have to be relocated. Transgrid would work with landholders to minimise these impacts, and if relocation is required this would be agreed and documented in the PMP.

Overhead transmission lines may also impact on the operation of electric fencing. Electric fencing must be located at least 30 metres from transmission line structures or supporting guy wires and be no higher than 2.5 metres. These requirements would potentially restrict the siting of electric fences and may require the realignment of some fences but are unlikely to result in major impacts on the operation of grazing enterprises or the movement of livestock. Transgrid would work with landholders to minimise these impacts, and if realignment is required this would be agreed and documented in the PMP.

Concerns about dust from potentially contaminated land during construction affecting wool quality and value are acknowledged. Dust generated by construction activities is highly unlikely to affect wool quality and prices. This is because a large amount of dust is required to significantly affect wool. Given the likely separation distances between construction activities and where sheep would be grazing, and the implementation of mitigation measures AQ1 and SC2 (refer to Appendix B (Updated mitigation measures)), potential impacts are expected to be negligible. It is to be noted that the effectiveness of the controls will be monitored, and additional controls will be implemented as required to address any performance issues identified.

Submitter ID numbers

S-62904959, S-63252732, S-62494957, S-63195227, S-63146987, S-63146971, S-63250210, S-63076708, S-63250000, S-63250004, S-63249225, S-63196979, S-62999456, S-63249498, S-63274965, S-63274723, S-63271456, S-62774492, S-63250210, S-63249498, S-63190238, S-63183709, S-63269206, S-63119956, S-62401209, S-63269212

Summary of issues raised

Submitters raised concerns about impacts on agricultural aerial operations, including the ability to manage weeds and pests and the aerial application of fertiliser and risks to pilots. Impacts for some agricultural enterprises will be compounded due to existing 330 kV transmission lines. One submitter has estimated a potential \$228 million impact on agricultural productivity due to restrictions on aerial agricultural operations.

Response

The concerns about impacts on agricultural aerial operations are acknowledged. Transgrid is committed to working with landowners to minimise, mitigate and manage these impacts during construction and operation.

Section 11.5.2.5 of the EIS acknowledged that there would be some restrictions for aerial agricultural activities along the transmission line easement such as aerial application of fertiliser and weed/pest control. This could result in a potential decline in the efficiency and effectiveness of aerial agriculture operations as current procedures may need to be amended to compensate for the presence of the new transmission line easement. Transgrid will continue to consult with landowners on potential impacts to agricultural operations and minimise impacts where practicable during further detailed design and construction. Transgrid encourages affected landowners to openly engage with their relevant land access officer in order for their concerns to be captured for review as timeously as possible during the design phase. Potential impacts on easement affected landowners would be addressed through compensation provided to the landowner in accordance with the requirements of the *Land Acquisition (Just Terms Compensation) Act 1991*.

Mitigation measures LP3 and revised mitigation measure LP2 also provide opportunities to manage the compounded impacts concerning weed, pests and the aerial application of fertiliser. Aviation safety risks on pilots conducting low level operations would be managed and minimised with the inclusion of the transmission line structures on aeronautical charts, pilot briefings and the Aerial Application Association of Australia formal risk management program (refer to revised mitigation measure HR6 and HR7 detailed in Appendix B (Updated mitigation measures)). In addition, new mitigation measure LP8 has been developed to identify appropriate mitigation arrangements in consultation with relevant landowners who use aerial farming operations, such as the installation of aerial warning markers on the transmission lines (refer to Appendix B (Updated mitigation measures) for further detail on new mitigation measure LP8).

The claim of the potential \$228 million impact on agricultural productivity due to restrictions on aerial agricultural operations is not supported by any documentation or analysis. The submitter has provided examples of how reduced aerial fertiliser or pesticide application may cause reduced production. However, these examples have not been applied precisely to the land uses, areas and specific characteristics of the project footprint to accurately determine the overall production loss.

Additionally, the submitter has used the total area of the agricultural study area (ie the project footprint with a 1.5 kilometre buffer, which was calculated to be 90,720 hectares) to determine the impact on agricultural productivity, whereas the area that would be subject to restrictions on aerial agricultural operations would

be much less. For the amended project, this would be approximately 2,477.1 hectares (from the *Technical Report 4 – Agricultural Impact Assessment Addendum* of the Amendment Report).

Submitter ID numbers

S-63222221, S-63274706, S-63222219, S-62910496, S-62976708, S-63250210, S-63190238, S-63229469, S-63800206, S-63146987, S-63249498, S-63229475

Summary of issues raised

Submitters raised concerns about the increase in biosecurity risks, including disease and weed infestations due to the project. Impacts will be ongoing and increased with wider easements associated with paralleling the proposed 500 kV transmission line and the existing 330 kV transmission line. One submitter also suggested the increase in biosecurity risks and its effect on agricultural productivity is a significant project cost.

Response

The concerns about biosecurity risks are acknowledged. Transgrid is committed to working with landowners to minimise, mitigate and manage these.

Biosecurity risks were assessed for construction and operation of the project in Section 11.4.2.3 and Section 11.5.2.3 of the EIS, respectively. There is a risk that animal diseases, plant diseases, pests and weeds could be introduced or spread during construction of the project. The biosecurity risks would be highest during construction due to disturbance of ground cover and soil from earthworks and the greater frequency of vehicle and personnel movements.

To avoid, mitigate and manage these risks, biosecurity controls and PMPs would be implemented in accordance with the following mitigation measures to manage potential biosecurity risks during construction and operation:

- a Biosecurity Management Plan would be developed as part of the Biodiversity Management Plan for implementation during construction (refer to Appendix B.1 (Updated biodiversity mitigation measures))
- a weed control strategy to be implemented during the operational stage of the project (refer to Appendix B.1 (Updated biodiversity mitigation measures))
- revised mitigation measure LP2, requires the development of PMPs in consultation with landowners and stakeholders including identifying specific biosecurity controls during construction
- revised mitigation measure LP4, requires the implementation and monitoring of biosecurity controls to minimise the risk of off-site transport or spread of disease, pests or weeds during construction and operation in consultation with the affected landowner.

Transgrid acknowledges concerns around biosecurity risks and its effect on agricultural productivity. Transgrid and the construction contractors would need to meet obligations under the *Biosecurity Act 2015* during construction and operation. The mitigation measures listed above provide for appropriate management of potential biosecurity risks, including consultation with the landowner. The implementation of these mitigation measures is expected to minimise potential impacts on agricultural productivity. Detailed biosecurity controls for the construction phase would be documented in the Biosecurity Management Plan. During operation biosecurity risks will be managed in accordance with Transgrid's *Biosecurity Procedure and Biosecurity Environmental Guidance Note*.

Submitter ID numbers

S-62406709, S-63271456, S-63190218, S-63270709, S-63249981, S-63190240, S-63065456, S-62688709, S-63269212, S-63125734, S-63246464, S-63287206, S-62910496, S-63233458, S-62963726, S-63146971, S-63250997, S-63250210, S-62663503, S-63252956

Summary of issues raised

Submitters raised concerns about the impacts of overhead transmission lines on agricultural operations and productivity. Specific comments included:

- overhead transmission lines and structures will restrict farm machinery and practices, the use of electric fencing and will also be a safety risk for landowners and employees who will be required to travel under them on a daily basis
- impacts on existing technology use, eg global positioning systems (GPS) systems and the use of future wireless technologies associated with agricultural operations
- while grazing can continue under transmission lines, pasture quality will significantly deteriorate, as will production levels.

Response

The concerns about the impacts of overhead transmission lines on agricultural operations and productivity are acknowledged. Transgrid is committed to working with landowners to minimise, mitigate and manage these impacts.

The impacts of the transmission lines on agricultural operations have been considered in Chapter 11 (Land use and property) and *Technical Report 4 – Agricultural Impact Assessment* of the EIS.

In accordance with Transgrid's *Living and working with electricity transmission lines guidelines*, machinery and equipment within the transmission line easement would be restricted to a height of 4.3 metres to minimise the risk of collision or close approach with the transmission line. This may prevent the use of certain equipment within the easement such as large harvesters and grain augers. There are also some limitations to other agricultural activities such as irrigation, aerial spraying and fuel storage within transmission line easements. Other farming activities such as grazing and cropping can continue under transmission lines and within the easement area (subject to height restrictions). Refer to Section 7.1.5 of the *Technical Report 5 – Land Use and Property Impact Assessment* of the EIS for further impact assessment of restriction of movements as a result of overhead transmission lines.

Transgrid's *Living and working with electricity transmission lines guidelines* notes that electric fencing must be located at least 30 metres from transmission line structures or supporting guy wires and be no higher than 2.5 metres. These requirements may restrict the siting of electric fences and may require the realignment of some fences but are unlikely to result in major impacts on the operation of grazing enterprises or the movement of livestock.

As outlined in Section 11.5.2.5 of the EIS, many landowners in the agricultural study area use GPS guidance for their cropping equipment. Concerns regarding potential interference of transmission lines on GPS reception by base stations and cropping equipment, or with signals sent by base stations to equipment were expressed by landowners. Should interference with GPS guidance occur, this could cause an impact on cropping operations. Where interference is observed, signal boosting equipment or antenna enhancement would be offered to limit the impact on landowners.

Mitigation measure LP6 and revised mitigation measure LP2 are relevant to GPS impacts and property management respectively, where rectification measures will be considered in consultation with the relevant landowners.

Pasture quality under the transmission lines should not generally deteriorate significantly on well-managed agricultural land. Some additional work would be required to ensure weed control, pasture composition and soil fertility are maintained, especially around transmission line structures. However, across most of the easement, normal pasture management would be able to be undertaken. There may be some areas where reduced access by aerial agricultural operations (eg pasture seeding, fertiliser application and weed control) may reduce pasture quality. However, these areas would comprise only a small proportion of the total project footprint.

7.4.4.4. Property devaluation

Submitter ID numbers

S-63150957, S-63544467, S-62674956, S-63252956, S-63274706, S-63236479, S-63195227, S-63229475, S-63222219, S-62977986, S-63146987, S-63264724, S-63250000, S-62910496, S-63065456, S-62904959, S-63146971, S-63269206, S-63226712, S-64565709, S-63196516, S-62976708, S-63249981, S-63800206, S-63196979, S-63250970, S-63249498, S-63125734, S-63183709

Summary of issues raised

Submitters raised concerns about decreased property value due to the project, including for properties directly impacted and neighbouring properties. Submitters claimed there could be reductions in value between 30 and 50 per cent with other associated consequences (eg additional refinancing costs for properties that are security for a bank loan). Visual amenity impacts were suggested as one of the main reasons for decreased property value and land devaluation.

Submitters also raised other related concerns to decreases in property value, such as whether their property would remain insurable, whether insurance premiums would increase, and that intended succession plans for their property would be affected.

Response

The property market responds to various positive and negative influences, which may be impacted by the construction and or operation of the project. Over a number of years, Transgrid has worked with specialist land economists to understand the perceived devaluation in property value. Evidence so far has shown the values of properties with transmission line easements over time are consistent with the market.

In accordance with the *Land Acquisition (Just Terms Compensation) Act 1991* the impact on the market value of a property will be determined through an assessment of the value of the land undertaken by an appropriately qualified, licensed and experienced valuer. The valuer will look at the value of the property with and without the easement and assets, with the difference in value being the impact on the market value of the property.

In addition to paying for the reduction in the market value of a property, professional expenses, such as legal and valuation costs incurred in negotiating the Easement Option Agreement, will be reimbursed by Transgrid where reasonably incurred. Easement affected landowners may also be eligible to claim payment for other losses or expenses reasonably incurred as a result of the easement acquisition, including

payment for business interruption. Transgrid will discuss with each affected landowner the potential impacts of the easement and construction works on the use of their property.

Using the above process, an easement payment offer will be determined and presented to affected landowners. In the event that a landowner does not agree with Transgrid's proposed offer, they will be given the opportunity to obtain their own valuation from an appropriately qualified, licensed and experienced valuer. Transgrid will seek good faith negotiations with each landowner to reach an agreed easement payment amount. Concerns regarding visual amenity impacts of the project are addressed in Section 7.4.7 of this report and *Technical Report 8 – Landscape Character and Visual Impact Assessment Addendum* of the Amendment Report.

Currently, there is no existing legislative mechanism within the NSW Government outlining compensation measures for non-easement affected landowners that may have visual impacts as a result of energy transmission infrastructure projects.

Transgrid will continue to advocate strongly for a consistent, fair, NSW Government policy offering the option of payments to neighbouring properties for visual impacts from transmission projects that cannot otherwise be mitigated.

If a landowner's insurance premium increases strictly as a result of the transmission line, landowners may be eligible for compensation. Additionally, Transgrid holds insurance policies to cover risks while operating its transmission network. It should be noted that irrespective of insurance coverage, Transgrid will be legally liable for any loss or damage to third parties for which it is found to be legally responsible.

Concerns about the project affecting succession plans for the submitter's properties are acknowledged. It is considered that the above compensation measures and the implementation of land use and property mitigation measures (refer to Appendix B (Updated mitigation measures)) would assist in managing the project's effect on any succession plans submitters are proposing for their property.

7.4.4.5. Other land use and property impacts

Submitter ID numbers

S-62923210, S-63196979, S-62688709, S-63219970, S-63146987

Summary of issues raised

Submitters raised concerns around existing and future land use impacts from the project. Specific comments included:

- justification is required for locating the project within 200 metres of Minjary National Park, Mudjarn Nature Reserve, Bango Nature Reserve, Back Arm Nature Reserve, Tarlo River National Park, and Kosciuszko National Park.
- the project is incompatible with the existing land use as it is subject to bushfires and has inaccessible terrain
- a proposed subdivision will no longer be possible due to the project infrastructure
- how the project can impact land dedicated to environmental conservation in the Bowring area and land zoned Conservation Zone (C3) near Pejar Dam is queried.

Response

As noted in Section 11.3.2 of the EIS, there are a number of national parks and nature reserves close to the project footprint including Minjary National Park, Mudjarn Nature Reserve, Bango Nature Reserve, Back Arm Nature Reserve, Tarlo River National Park and Kosciuszko National Park. While these national parks and nature reserves would not be directly impacted by the project, there is potential for indirect impacts to occur during construction. The main construction activity to be carried out adjacent to national parks and nature reserves would be associated with construction of the transmission line structures and clearing within the transmission line easement. The potential indirect impacts on adjacent national parks and nature reserves are considered in Table 11-8 of the EIS in accordance with *Developments adjacent to NPWS lands: Guidelines for consent and planning authorities* (NPWS, 2020). The amended project would not impact on any additional national parks or nature reserves and would be slightly further away from Mudjarn Nature Reserve and Minjary National Park.

Overall, potential indirect impacts on adjacent national parks and nature reserves are expected to be minimal and managed in accordance with mitigation measures proposed for the project. It is to be noted that the project would not encroach or require access through NPWS land for either construction or operational activities.

Route option assessment considered field survey information (including ecology and heritage), engineering and design development (including location of transmission structures and access tracks), community and landowner feedback, local constraints (environmental, engineering, property and community) and cost factors. In certain, highly constrained, areas where multiple routes were feasible, detailed route options assessments were undertaken. This process involved community consultation, tabulation and comparison of environmental constraints, and desktop assessment of construction, offset, and easement acquisition costs. Land use, bushfire prone land and topography were considered as part of the route options selection process and where issues were unable to be avoided, they were assessed, and mitigation measures developed to manage risks.

A desktop review of potential future property and land use changes has considered landowner identified potential future developments and/or subdivisions (refer to Section 5.4 and Section 7.3 of *Technical Report 5 – Land Use and Property Impact Assessment* of the EIS). Any future developments and/or subdivisions proposed by landowners would need to meet the requirements of Transgrid's *Easement guidelines – Living and working with electricity guidelines*.

The conservation value of lands with the project footprint and amended project footprint are considered in *Technical Report 1 – Biodiversity Development Assessment Report* of the EIS and *Technical Report 1 – Revised Biodiversity Development Assessment Report*. Potential conservation values are identified through vegetation and habitat mapping for threatened species, field surveys where access is available, and geographic and landform/habitat coverage.

The project is declared as Critical State Significant Infrastructure (CSSI) in which approval is granted under Part 5.1 of the EP&A Act and as such is not subject to land zoning requirements within an LEP (local environmental plan). Notwithstanding, all relevant local and state environmental planning instruments were considered in the project design development and during the preparation of the EIS.

Submitter ID numbers

S-63233458, S-63196979, S-62688709, S-63104960, S-63190238

Summary of issues raised

Submitters raised general concerns around property impacts and how the project will affect their property in the future, including concerns:

- the project will affect the construction of a future new dwelling
- the project is affecting their ability to sell their property and will deter potential buyers in the future.

Response

Property impacts are considered in Chapter 11 of the EIS (Land use and Property) and Chapter 6 (Assessment of impacts) of the Amendment Report. Potential property impacts include changes to land tenure from property acquisition and the establishment of easements and other potential property disruptions during construction such as temporary access restrictions and potential adjustments to property infrastructure. As detailed in revised mitigation measure LP2, individual PMPs will be developed in consultation with directly impacted landowners. These plans will address individual property requirements during the construction stage of the project, including adjustments to property infrastructure, biosecurity protocols, as well as agreed timing and location of works to limit disruption of landowner activities. Land temporarily used for construction would be reinstated in consultation with the affected landowners and returned as soon as practicable at the completion of construction.

Easements through private property would be acquired either by agreement or in accordance with the requirements of the *Land Acquisition (Just Terms Compensation) Act 1991*. While the tenure and ownership arrangements would be long-term, the compensation process is designed to reduce the magnitude of the impacts. During operation, some land within the easement would be permanently required for transmission line infrastructure. Other land would have partial use restrictions in accordance with the requirements of Transgrid's *Easement guidelines - Living and working with electricity transmission lines*.

A desktop review of potential future property and land use changes has considered landowner identified potential future developments and/or subdivisions (refer to Section 5.4 and Section 7.3 of *Technical Report 5 – Land Use and Property Impact Assessment* of the EIS). Potential impacts on easement affected landowners would be addressed through compensation provided to the landowner in accordance with the requirements of the *Land Acquisition (Just Terms Compensation) Act 1991*. Many factors are considered when assessing compensation. Section 55 of the *Land Acquisition (Just Terms Compensation Act) 1991* outlines the matters to be considered in determining the amount of compensation payable for the easement interests acquired for the project. The amount of compensation negotiated with each landholder varies depending on the circumstances specific to each property.

Compensation is determined at the time of the acquisition of the easement and the valuer would consider the impact on the land outside of the easement as part of the injurious affection component of the claim. This may include an assessment of any developments that may be proposed on the property affected by the works. In assessing future developments, the valuer would consider the timing of those developments whether there was an approval in place for the development and any other relevant factors that need to be considered in their assessments of the injurious affection component of the claim. The basis of compensation would be determined on a case by case basis in compliance with valuation standards and the requirement of the *Land Acquisition (Just Terms Compensation) Act 1991*.

Transgrid acknowledges the concerns of the submitters regarding the project affecting the ability to sell their property. Property sales are driven by a range of economic, social and amenity factors, such as demand and supply of housing, interest rates, economic growth, local amenity and accessibility to employment and social infrastructure. The amended project has been developed to minimise potential local amenity impacts where possible and includes a number of landscape character and visual amenity mitigation measures (eg LV1, LV4 and revised LV2 and LV5) and operational noise mitigation measures (eg NV8 and revised NV9) to further minimise impacts.

In addition, consideration of the amended project's effect on property valuation is provided in Section 7.4.4.4. As noted, Transgrid has undertaken a review of the property market with specialist land economists, which has provided further understanding of the perceived devaluation in property value. Evidence so far has shown that the values of properties with transmission line easements over time are consistent with the market.

Submitter ID numbers

S-63226715, S-62923210

Summary of issues raised

Submitters raised concerns about impacts to large areas of forestry land as a result of the project. Specific comments included:

- further losses of plantation land would compromise NSW's ability to provide adequate timber supplies in the future
- the project has potential to lose some of the best highly productive plantation areas in the region with good all weather infrastructure and accessibility.

Response

The impact on forestry land such as Bago, Green Hills, and Red Hill State forests is considered in Chapter 11 (Land use and property) and Chapter 12 (Economic) of the EIS and Chapter 6 (Assessment of Impacts) of the Amendment Report.

Since public exhibition, the project has been amended to include the Green Hills corridor amendment (refer to Chapter 3 (Description of the amended project) of the Amendment Report). As such, the revised overall area of forestry land impacted due to the amended project is 614.7 hectares.

Transgrid would compensate forestry operators for any lost plantation forestry land through an upfront payment and/or through the provision of replacement land. This would offset permanent impacts, though would potentially have flow-on land use impacts associated with transferring land currently used for other purposes to forestry land uses. This approach would help minimise the reduction in forestry land available for timber supply.

Refer to Section 5.10.4 for Transgrid's response to FCNSW regarding route selection and Section 5.10.5 for Transgrid's response to FCNSW regarding compensation for impact.

7.4.4.6. Management of impacts

Submitter ID numbers

S-62489962, S-62674956, S-62494957, S-63270717, S-62870206, S-63119956, S-62731707, S-63252730, S-63125730, S-63190218, S-62963726, S-63146971, S-63250210, S-63148207, S-63249981, S-63076708, S-63252728, S-63250004, S-63190240, S-62688709, S-62084706

Summary of issues raised

Submitters raised various concerns about the compensation process. Specific comments included:

- the current compensation should be reviewed as it is not fair or equitable
- requests for more compensation
- other states provide higher compensation to landowners
- compensation could take the form of discounted electricity prices based on a sliding scale
- clarification is required on whether the Strategic Benefits Payment from the NSW Government will be available for those impacted by the project.
- compensation should be provided to indirectly impacted and neighbouring properties

Response

Compensation for the acquisition of the easement over a property are determined in accordance with the *Land Acquisition (Just Terms Compensation Act) 1997*. Transgrid is required to undertake property compensation negotiation as per the relevant legislative requirements.

Many factors are considered when assessing compensation. Section 55 of the *Land Acquisition (Just Terms Compensation Act) 1997* outlines the matters to be considered in determining the amount of compensation payable for the easement interests acquired for the project. The amount of compensation negotiated with each landholder varies depending on the circumstances specific to each property. However, all assessments generally consider construction and other temporary disturbance, the restrictions on activities and development within the easement itself and the impact on the value and amenity of adjoining land.

The NSW Government Strategic Benefits Payment will apply once HumeLink transmission line is energised, and easement affected landowners will be compensated at \$10,000 per kilometre per annum for 20 years with that amount being indexed annually.

Currently, there is no existing legislative mechanism within the NSW Government outlining compensation measures for non-easement affected landowners that may have visual impacts as a result of energy transmission infrastructure projects.

Transgrid will continue to advocate strongly for a consistent, fair, NSW Government policy offering the option of payments to neighbouring properties for visual impacts from transmission projects that cannot otherwise be mitigated.

Submitter ID numbers

S-61852720

Summary of issues raised

Submitters raised concerns about property management plans, including:

- developing property management plans before detailed design has been completed will mean residual impacts will not be considered or compensated
- use of property management plans to mitigate property impacts will transfer risks to landowners
- the amount of landowner effort to develop property management plans for the project when this should be done by Transgrid.

Response

As detailed in revised mitigation measure LP2, individual PMPs will be developed during the property acquisition and compensation process and implemented after determination of the project. PMPs will be developed in consultation with affected landowners. These plans will address individual property requirements during the construction stage of the project, including adjustments to property infrastructure, biosecurity protocols, as well as agreed timing and location of works to limit disruption of landowner activities. Land Access Officers would continue to liaise with affected landowners throughout construction to assist with the implementation of biosecurity and access protocols and the interaction between agricultural activities and construction work to minimise and manage impacts. It is intended that PMPs would continue to be developed between relevant landowners and Transgrid as part of the ongoing development of the project.

PMPs are not a source of compensation. Compensation is agreed after an independent valuation of the property occurs. This compensation amount is recorded under the Option Deed. Attached to the Option Deed is a PMP that is compiled in consultation with each affected landowner. The Option Deed provides that if there are significant changes to the easement area or if the easement is amended and goes outside of the corridor after the Option Deed is signed, the parties will recommence negotiations on the increased impacts.

The PMPs do not impose any liability or risk on the landowner. They reduce the risk of loss or damage by the construction contractor as they are filled with information that the landowner is best placed to identify. If Transgrid or its construction contractors cause damage to a landowner's property, they will be liable for the costs in rectifying the damage, regardless of whether that property was identified in the PMP or not.

Transgrid requires input from affected landowners with property specific information to minimise impacts construction activities, for example, on their land and farming practices. As such, it is important that landowners are consulted during the preparation of the PMPs.

Submitter ID numbers

S-62494957, S-62663503, S-63229469, S-63269216, S-63125730, S-63241956, S-63146971

Summary of issues raised

Submitters raised various concerns on the approach to managing property and land use impacts. Specific comments included:

- clarification is required on whether trees on private land would be replaced as submitters have been advised they wouldn't, which contradicts commitments in mitigation measure LP2
- clarification is required on who will be responsible for long-term maintenance and biosecurity protection of agricultural land within the transmission line easement
- wash down stations will not be effective in managing biosecurity risk due to likely run-off into adjacent agricultural land
- investigating alternative technologies for weed control (eg use drones) is not a solution as drones cannot be used within the transmission line easement
- APA Group has provided several conditions and requirements for development within or near their pipeline route that will need to be followed.

Response

Revised mitigation measure LP2 refers to the development of PMPs for directly impacted properties in consultation with landowners. PMPs may provide for replacement trees as part of restoration or rehabilitation and stabilisation of disturbed areas following the completion of construction. Any replacement trees will need to meet the requirements of Transgrid's *Living and Working with Electricity Transmission Lines* and the provision of any replacement trees would form part of property negotiations.

Transgrid's *Biosecurity Procedure and Biosecurity Environmental Guidance Note* set out requirements for meeting biosecurity responsibilities under the NSW *Biosecurity Act 2015* and the associated *Biosecurity Regulation 2017*. Transgrid recognises that managing biosecurity is a responsibility shared between the government, industry, land occupiers, natural resource managers and the community. Although Transgrid has the right to access its electricity network infrastructure under the *Electricity Supply Act 1995*, Transgrid is committed to working with landowners to meet their duty under the *Biosecurity Act 2015* to prevent, eliminate or minimise biosecurity risk so far as is reasonably practicable.

The *Biosecurity Procedure and Biosecurity Environmental Guidance Note* is implemented by all Transgrid staff and contractors for all operations. Transgrid has a 'come clean-go clean' policy and would adhere to any property-specific biosecurity plans before entering a property. Further information on the procedure can be found at <https://www.transgrid.com.au/media/bfknysr4/humelink-biosecurity-procedure.pdf>.

A Biosecurity Management Plan will be implemented for the amended project to minimise the risk of off-site transport or the spread of disease, pests or weeds. Specific controls, such as wash down stations will be identified in consultation with the affected landowner. The effectiveness of these controls will be monitored in a manner and time interval consistent with the level of risk on each property (refer to Appendix B.1 (Updated biodiversity mitigation measures)).

Aerial drone spraying was a community investment initiative investigated as a potential alternative to spraying with conventional aircraft. The initiative did not pass Transgrid's risk assessment process and was therefore not pursued.

Consultation with utility service providers that own and/or operate assets has begun and would continue during further detailed design and construction of the project to mitigate the risk of unplanned and unexpected disturbance of utilities. While the final transmission line alignment is likely to cross gas pipelines and other utilities, it is expected that the transmission line structures could be micro-sited to avoid impacts to the utilities. Transgrid will consult further with APA Group and Jemena regarding the pipeline crossings and any requirements for surveying, access and construction during further detailed design and construction.

Further consideration of the gas pipelines and interactions with the amended project is provided in Chapter 6 (Assessment of impacts) of the Amendment Report.

7.4.5. Economic

7.4.5.1. Methodology

Submitter ID numbers

S-63249978, S-63250210, S-63233458

Summary of issues raised

Submitters raised concerns about the inadequacy of the economic assessment methodology. Specific comments included:

- the economic impact assessment does not adequately consider cumulative impacts from increased resource demand and business prices, which could offset some of the project's economic benefits
- the method used to determine the project's economic benefit for the region and State is incorrect and inconsistent with the NSW Government Guide to Cost-Benefit Analysis and ignores the non-market costs of overhead transmission lines.

Response

Technical Report 6 – Economic Impact Assessment was prepared for the EIS to address the SEARs for the project and was prepared in line with the QLD Government's *Economic Impact Assessment Guideline* (State of QLD, Department of State Development, 2017) in the absence of an equivalent NSW Government guideline applicable to the project. Additionally, the economic impact assessment considered a number of State and regional policies and local government strategies.

The net market benefits of project are estimated at more than \$1 billion (Transgrid, 2024b). There may be some higher cost of resources if several competing projects are underway at the same time. However, these fluctuations are expected to be minor against the scale of net market benefits of the project.

Chapter 4 of *Technical Report 6 – Economic Impact Assessment* of the EIS details the methodology used to assess positive and negative economic impacts during the construction and operation of the project. The assessment was not intended to provide a cost-benefit analysis as per the *NSW Government Guide to Cost-Benefit Analysis*. Instead, an input-output (I-O) model using the *Australian National Accounts 2018-19 I-O tables* (ABS, 2021) was developed for the purposes of assessing the economic impacts of the project at the regional, State and national levels. Impacts on agriculture and forestry production because of the overhead transmission line were quantified. Although not quantified, other non-market impacts of overhead transmission lines were assessed in other technical reports developed as part of the EIS (eg visual and other environmental impacts).

Section 7.5 provides further discussion on the consideration of the calculation of project costs and benefits, including consideration of economic benefit and non-market costs in relation to the project need and justification.

Submitter ID numbers

S-63226715

Summary of issues raised

One submitter raised concerns around the methodology for calculating economic impacts on forestry land uses, including that:

- an aggregate estimate of the value of the forestry and wood products sector should have been done to better consider the role of the forestry and wood product sector in the regional economy
- there is no assessment of any impact of the loss of resource on processors
- the economic impact of the project on the forest industry is much larger than the value assessed
- the estimates are based on a single rotation of production, which underestimates the value given the expected duration of transmission line operation exceeding this timeframe.

Response

Technical Report 6 – Economic Impact Assessment prepared for the EIS outlined the assessment methodology used for calculating the economic impacts of the project, including those associated with the expected loss of forestry land during construction and operation. Since public exhibition of the EIS, an updated economic assessment has been prepared using this methodology and is summarised in Chapter 6 (Assessment of impacts) of the Amendment Report to assess any changes to economic impacts from the proposed amendments and refinements that have been included in the amended project, including the Green Hills corridor amendment that goes through forestry land.

The assessment methodology in the EIS and Amendment Report involved developing an input-output model, which captured both direct and indirect effects from changes in expenditure (including linkages and supply chain effects between different industries in the economy, known as the multiplier effect). In this sense, input-output modelling is considered an aggregate approach for assessing impacts on the economy. As such, the input-output modelling would have captured any indirect impacts on the wood product/processing industry and other related sectors that would result from any direct losses to the forestry industry from the project.

The amended project would result in up to 614.7 hectares of forestry land use areas being permanently cleared. Whilst this land is largely softwood plantations, a large area of these plantations has been previously impacted by bushfires and is currently clear of trees or consists of replanting in more recent years. As outlined in Section 5.10, Transgrid has and will continue to engage with Forestry Corporation of NSW (FCNSW) to help minimise the impacts on forestry operations as far as is practicable.

As stated in Chapter 6 (Assessment of impacts) of the Amendment Report, the net present value (NPV) of the loss in timber from the amended project has been assessed to equate to around \$12.3 million, which is lower than the updated net market benefit of HumeLink which is estimated at more than \$1 billion (Transgrid, 2024b). Over 70 years (which captures more than a single rotation of production and is the expected design life of the transmission lines), the loss is calculated to be \$15.5 million.

Using the input-output model to assess potential economic impacts on the loss of forestry land and logging operations makes it possible to determine the flow-on effects to other sectors by applying a multiplier. Based on recent data from the *Australian National Accounts 2020-21 Input-Output tables* (ABS, 2023), multiplier impacts from forestry and logging are around 2:1. Hence, the estimated loss of around \$15.5 million could arguably result in a loss of nearly \$31 million when considering flow-on effects. However, the figure of \$31 million is considered a worst-case scenario that assumes the loss in forestry cannot be substituted and it also assumes the area is in full production. Notwithstanding, this loss remains negligible compared to the Gross Regional Product of \$9.3 billion in the economic study area (ie the LGAs within and surrounding the amended project footprint).

In addition, as outlined in Section 5.10, Transgrid is currently engaging with FCNSW regarding the quantum of compensation payable or replacement land to FCNSW in relation to the relevant legislation that applies to this matter. Replacement land provided to FCNSW would mitigate the reduction in timber production capacity.

Submitter ID numbers

S-63249978, S-63226715

Summary of issues raised

Submitters raised concerns about the calculation of job creation and economic stimulus from the project, and whether it should be considered a regional benefit. Specific comments included:

- the direct and indirect jobs in the regional economy calculated to be created by the project have been overestimated and are based on unrealistic assumptions
- job creation should not be considered a regional benefit as it will only have a temporary impact on the regional economy during construction
- the assumption that all construction materials and services will be sourced locally is unlikely as construction contractors will likely bring in their workforce and materials from outside the region.

Response

Jobs in the regional economy would be generated as a result of construction expenditure generating additional economic activity in the area surrounding the project. The construction industry has strong linkages with other sectors, so the impacts on the economy go further than the direct contribution of construction and construction workers directly employed by the project. This is known as the multiplier effect. There are two types of multiplier effects:

- production induced effects, which are made up of direct effects (all outputs and employment required to produce the inputs for construction) and indirect effects (the induced extra output and employment from all industries to support the increased production of the construction sector)
- consumption-induced effects, which relates to the demand for additional goods and services due to increased spending by the wage and salary earners across all industries arising from employment.

It is acknowledged that this may be a temporary regional benefit experienced for the duration of construction of the project. Long-term regional economic benefits would result from the improved transmission infrastructure in the region that would potentially encourage additional development of renewable generation.

Since public exhibition of the EIS, several changes have been proposed to the project, which have resulted in changes to the expected economic impacts of the project. The economic impacts of the amended project have been assessed in Chapter 6 (Assessment of impacts) of the Amendment Report.

As stated in Chapter 6 (Assessment of impacts) of the Amendment Report, through production and consumption induced multiplier impacts, a total of 32,639 job years (a job year is one full-time equivalent job over one year) would be supported in the national economy from the construction of the amended project of which 30,497 of these job years would be generated and/or supported within NSW and 22,112 within the region. This indicates an increase of 5,346 job years at the national level, 4,680 at the State level, and 4,651 at the regional level in comparison to the EIS project.

The assessment has not assumed that all construction materials and services would be sourced locally as some workers and materials may need to be sourced from further afield. For example, only 20 per cent of the workers are expected to already live in the LGAs within or surrounding the amended project footprint and some substation equipment would be imported and transported from ports.

The preparation of a Local Industry Participation Plan for the project is included as mitigation measure EC1 (refer to Appendix B (Updated mitigation measures)). The plan aims to optimise the participation of local and regional suppliers and contractors in the project supply chain, including indigenous businesses and women-owned businesses. The plan will support delivering the Australian Industry Participation Authority objectives and commitments outlined in the project-specific Australian Industry Participation Plan.

Transgrid has also been actively encouraging local businesses to sign up for the HumeLink Local Business Register, which will be shared with the construction contractors for the project. The register will serve as the first stop for procuring goods and services and sharing opportunities for local businesses.

7.4.5.2. Potential impacts

Submitter ID numbers

S-62401209, S-63249978, S-63190240, S-63250210, S-63249225

Summary of issues raised

Submitters raised concerns about the national and regional economic impacts from a loss in agricultural production due to the project.

Response

The economic impacts from the loss in agricultural production due to the project were assessed in Sections 6.6 and 7.2 of *Technical Report 6 – Economic Impact Assessment* of the EIS. An updated economic assessment was undertaken for the amended project in –Chapter 6 (Assessment of impacts) of the Amendment Report.

During construction, the value of agricultural production loss for the amended project is estimated to be \$1,482,523 over a two and half year construction period, compared to \$837,800 estimated for the EIS project. The increase mainly arises from the change to the quantification of new and upgraded access tracks. The direct impact of the amended project on agricultural production would be relatively low during construction and would have a minor effect on agricultural productivity in the context of the total area of agricultural holdings in the five impacted LGAs. It should be noted, however, that most of the upgraded tracks would already impact the agricultural production of the land on which they are located. Therefore,

the impact of the amended project on areas of agricultural productive land presented in the assessment are conservative and likely to overestimate the potential impacts on agricultural production.

The estimated economic impacts of the amended project on existing agricultural enterprises at the regional level are considered insignificant and unlikely to impact national gross domestic product (GDP).

During operation, the value of agricultural production loss for the amended project is assessed at \$350,106 per annum, a rise from \$150,000 per annum in the EIS project. The estimated figure for the amended project is based on worst-case assessment assumptions as detailed in *Technical Report 4 – Agricultural Impact Assessment Addendum* of the Amendment Report and is before mitigation measures have been applied.

A number of mitigation measures have been developed to minimise the project's impact on agricultural production during construction and operation, including mitigation measures LP1, LP3 and LP6, and revised mitigation measures LP2 and LP4 (refer to Appendix B (Updated mitigation measures)). With the implementation of these mitigations, impacts to agricultural production would be minimised, which would also minimise the associated economic impacts.

Submitter ID numbers

S-63249978, S-62904959, S-63125734, S-62963726, S-63196979, S-63119956, S-63250970, S-63252728

Summary of issues raised

Submitters raised concerns about associated economic impacts from a loss of tourism as a result of the project. Submitters also raised concerns about the project impacting future eco-tourism developments.

Response

Technical Report 6 – Economic Impact Assessment of the EIS discussed the potential economic impact associated with a loss of tourism. Construction of the project has the potential to increase demand for tourism accommodation for workers and impose amenity impacts, which may discourage tourism.

As discussed in Chapter 4 (Actions taken since public exhibition), the amended project includes an increase in temporary worker accommodation facilities to house construction workers for the project.

An updated economic assessment of the amended project has been summarised in Chapter 6 (Assessment of impacts) of the Amendment Report. The addendum found that with the additional worker accommodation facilities, the existing supply of tourist accommodation would not be affected by the needs of the expected workers, and therefore there would not be a deterrent to tourism. Furthermore, a substantial number of rooms remain available to cater to any potential increase in tourist numbers in the region.

Construction disturbances (such as traffic impacts, noise, visual impact, etc) near national parks and State forests could also discourage some visitors and have an adverse impact on tourism. However, the project may also result in an increase in tourism spending in the economic study area, as family and friends of the construction workers visit to spend time with those workers. Likely, any adverse impacts on tourism resulting from construction disturbances would be outweighed by the benefits of consumption induced impacts in the study area resulting from additional workers, which would benefit nearby existing businesses in retail, accommodation, food services and similar.

Future eco-tourism development would be subject to NSW planning approvals and would need to meet other requirements to be classified as an eco-tourism development. Requirements include located in relatively unspoilt natural area, low visitor impact and socially and environmentally sustainable. As outlined in Appendix E (Project Options Report) of the EIS, the project has avoided Tier 1 constraints (no-go zones) including, but not limited to, wilderness protection areas, wetlands protected by international agreements and world heritage places.

Where practicable the project has also avoided or minimised impact to Tier 2 constraints including ecological conservation areas such as national parks and nature reserves. By avoiding and minimising impacts on these areas, the project has minimised the potential to impact on future eco-tourism developments.

Submitter ID numbers

S-63226715, S-63249978

Summary of issues raised

Submitters raised concerns around economic impacts associated with the impact on the softwood processing industry from the loss of timber plantations from the project. Specific comments included:

- Section 6.6.6 of the economic impact assessment states that the area of plantation impacted during construction is 'temporary' which is misleading as the easements and access requirements will be permanent features for at least the lifespan of the infrastructure being installed
- concerns the project will impact businesses relying on forestry as the availability of timber for local businesses (including packaging and structural timber) will be reduced.

Response

Since public exhibition of the EIS, the economic impacts on forestry have been re-assessed for the amended project and are summarised in Chapter 6 (Assessment of impacts) of the Amendment Report. The amended project includes the Green Hills corridor amendment, which was initially proposed by the community and adopted after consultation with FCNSW. This route amendment was selected in consultation with FCNSW to minimise impacts on productive forestry.

The assessment assumes that any vegetation (including forestry resources) within transmission line easements and access tracks would be permanently cleared or restricted in height for safety and operation reasons. Therefore, forestry would no longer be an appropriate land use within these areas. As such, it is estimated that the amended project would result in permanent impacts to around 614.7 hectares of forestry land use areas, the vast majority of which would be production native forestry.

The concerns regarding the impact on local businesses relying on the forestry industry are acknowledged. As discussed in Section 7.4.5.1, the economic assessment of the amended project has used multipliers to determine the potential flow-on effect to other sectors and businesses due to the loss of forestry land and logging operations. However, this assessment was considered a worst-case scenario.

Forestry land temporarily impacted during construction of the amended project by the establishment and use of construction compounds would be returned for forestry use post-construction. In addition, as outlined in Section 5.10, Transgrid is currently engaging with FCNSW regarding the quantum of compensation payable or replacement land to FCNSW in relation to the relevant legislation that applies to this matter. Replacement land provided to FCNSW would mitigate the reduction in timber production

capacity. In addition, implementing mitigation measure EC2 may assist local businesses relying on the forestry industry to expand their product and service offerings, which could minimise or offset potential impacts.

Submitter ID numbers

S-63190218, S-63250210, S-63190238, S-63274965, S-63250997, S-63190240, S-63196979, S-63274723, S-62976708, S-63250970

Summary of issues raised

Submitters raised other concerns around economic impacts from the project, including general concerns in relation to project costs and benefits:

- with the current low unemployment rate, it can be expected that the project will increase inflation and interest rates instead of increasing employment
- any short-term economic benefit during construction will be offset by the project's long-term economic impacts
- the worker accommodation facilities would not provide the claimed short-term economic benefits to the community as they will be self-sufficient
- the economic cost of all externalities needs to be provided for the life of the project.

Response

Construction and operation of the project will generate jobs directly, as documented in *Technical Report 6 – Economic Impact Assessment* of the EIS. The current unemployment rate is around four per cent, which is low when compared against the 10-year average of around five to six per cent and is slowly increasing.

The Reserve Bank has been increasing interest rates to keep inflation under control, and these increasing interest rates are impacting business investment which is impacting the creation of new jobs. By assisting in delivering additional, clean power competitively, the project would contribute to lower electricity prices and, therefore, contribute to easing inflationary pressures.

Concerns regarding the short-term economic benefits during construction being offset by the project's long-term economic impacts are acknowledged. While the project will deliver substantial short-term regional economic benefits during construction, the long-term economic benefits to the State and nation are much more substantial. The net market benefits associated with HumeLink have increased, from \$491 million in net benefits to electricity customers to more than \$1 billion (Transgrid, 2024b). This significant increase in market benefits is primarily driven by:

- the latest AEMO information on timing of energy generation projects
- emissions targets and renewable energy policies changing the inputs and assessments for AEMO benefits modelling.

By increasing the amount of electricity that can be delivered to the National Electricity Market and providing greater access to reliable and affordable electricity, the project would increase competition in wholesale energy and help lower and stabilise electricity prices. More reliable and affordable energy would, in turn, help to increase business productivity and lower living expenses.

Concerns that the worker accommodation facilities would not provide the claimed short-term economic benefits to the community as they will be self-sufficient are acknowledged. Transgrid is engaging with local

councils about the amended project, including the proposed worker accommodation facilities and will address any concerns raised. In addition, the Local Industry Participation Plan (required by mitigation measure EC1) would assist with the short-term economic benefits associated with worker accommodation facilities being realised.

Where relevant and feasible, the cost of externalities (such as visual impact) has been considered in the independent valuation process for identifying the total compensation amount offered to landowners for easement-affected land. The biodiversity offset costs calculated for the amended project (which quantifies the cost of residual biodiversity impacts) have also been factored into the project cost.

7.4.6. Social

7.4.6.1. Methodology

Submitter ID numbers

S-62406709, S-62494957, S-63146971, S-63250997

Summary of issues raised

Submitters raised concerns about the information presented and the adequacy of the social impact assessment. Specific comments included:

- the assessment does not address the requirements of the *Social Impact Assessment Guideline* (Department of Planning, Industry and Environment, 2023)
- information and feedback from landowners appears to not have been considered in the social impact assessment
- information gathered in the survey was not representative of the communities, including claims some community members were paid to complete the survey
- the assessment focussed on areas not being impacted by the transmission line eg Gundagai and Tumbarumba
- local impacts to the wider community (including the Yass community) need to be considered not only directly impacted landowners
- mental health impacts have not been adequately assessed
- impacts on agriculture have not been considered in the social impact assessment.

Response

Attachment A of *Technical Report 7 – Social Impact Assessment* of the EIS provides a summary of how the assessment complies with the requirements of the *Social Impact Assessment Guideline* (SIA Guidelines) (DPIE, 2023) as well as authors' declarations regarding this compliance. The method for assessing the potential social impacts of the amended project in *Technical Report 7 – Social Impact Assessment Addendum* of the Amendment Report remains consistent with the EIS approach and the SIA Guidelines.

The assessment considered the outcomes of targeted stakeholder engagement undertaken by Social Atlas during September and October 2022 specifically for the assessment of social impacts as well as the broader program of engagement with affected landowners and the community carried out by Transgrid since early 2020. A summary of the feedback received during the targeted engagement is provided in Attachment C of *Technical Report 7 – Social Impact Assessment* of the EIS. The broader engagement activities carried out and a summary of the feedback received is provided in Chapter 6 (Engagement) and Appendix C (Engagement Outcomes Report) of the EIS.

The survey referenced in the submission where rewards were offered for survey completion was not related to consultation undertaken to inform the EIS or *Technical Report 7 – Social Impact Assessment* of the EIS. This was a separate survey to capture community sentiment. In late 2022, this survey was undertaken by Voconiq, a third party research organisation engaged by Transgrid to gather community sentiment across a broad region beyond the project footprint. The information gathered from the survey was used internally at Transgrid to help improve engagement with communities across the network. It was not specific to HumeLink, nor was the information gathered from the survey to be used as an external reference for community sentiment either for or against the project.

The Voconiq survey offered a \$20 cash gift to participants in Crookwell as an incentive to participate in lieu of a voucher of equivalent value. There were a number of circumstances that led to this outcome, including weather conditions forcing the survey inside and the venue not being able to offer vouchers. It is both legal and common practice for research organisations (such as Voconiq) to use small gifts, such as a voucher, to both incentivise people and to thank them for spending their time to complete a survey. More information is available here: <https://voconiqlocalvoices.com/en/transgrid/>

The SEARs for the EIS required consideration of construction workforce accommodation. Additionally, the SIA Guidelines outlined the requirements for understanding the social locality for the project. The SIA social locality has been examined at three different levels. These include the wider impacted and surrounding LGA level, the key communities' level including urban centres at Wagga Wagga, Tumbarumba, Batlow, Tumut, Gundagai, Yass and Goulburn, and the project footprint level, including the area to be directly impacted by the construction and operation of the project.

The assessment of social impacts included consideration of impacts on key communities that were identified to be likely to service and accommodate construction workers as well as areas that would be directly impacted by the transmission line. The key communities included Gundagai, Tumbarumba and Yass, which were mentioned in the submissions, as well as Wagga Wagga, Tumut, Batlow and Goulburn. In addition, consideration of impacts to the wider community were captured by assessing impacts at a social locality level, which was defined by the combined boundaries of the surrounding LGAs.

Chapter 5 of *Technical Report 7 – Social Impact Assessment Addendum* of the Amendment Report prepared for the amended project provides details of additional general and targeted stakeholder engagement undertaken to inform the addendum report. Whilst the social locality for the amended project remains the same as for the EIS project, the key community of Tarcutta was not previously captured within the assessment report prepared for the EIS. Tarcutta has been included due to the inclusion in the amended project of the Tarcutta accommodation facility and compound (AC03). This is now addressed in *Technical Report 7 – Social Impact Assessment Addendum* of the Amendment Report.

As outlined in Chapter 5 (Engagement) of the Amendment Report, ongoing community and stakeholder engagement has been undertaken as part of the development of the Amendment Report. Targeted stakeholder engagement for the amended project has focused on areas where new combined worker accommodation facilities and construction compounds are proposed, namely Batlow, Tarcutta, Yass, Crookwell, Tumut and Gundagai. Key stakeholder categories identified for additional consultation include easement affected landowners and near neighbours, Local Aboriginal Land Councils, local councils, medical services (eg hospitals and ambulances), tourism/visitors' centres and farmers associations.

As required by the SIA Guidelines, impacts to mental health have been assessed in Sections 7.5 and 8.5 of *Technical Report 7 – Social Impact Assessment* of the EIS, which is aligned with the 'Health and wellbeing' impact category in the SIA guidelines. The social impacts related to agricultural changes have been

considered and assessed in several impact categories in Chapters 7 and 8 of *Technical Report 7 – Social Impact Assessment* of the EIS and further assessed for amendments associated with impacts to agricultural land uses in *Technical Report 7 – Social Impact Assessment Addendum* of the Amendment Report.

7.4.6.2. Community

Submitter ID numbers

S-62401209, S-63266979, S-62731707, S-63146971, S-63250210

Summary of issues raised

Submitters raised concerns about impacts to Wagga Wagga, and other regional and rural communities, including residences and businesses along the transmission line corridor, and that they do not feel valued. It was also suggested that there has been too much focus on the community values in Tumbarumba at the expense of other communities and that the project provides insufficient social legacy.

Response

Wagga Wagga was identified as a key community along with other regional and rural communities that were subject to targeted consultation and assessment of social impacts. Attachment C of *Technical Report 7 – Social Impact Assessment* of the EIS provides a summary of the consultation findings by location that were used as an input for the assessment of social impacts.

The assessment included a focus on Tumbarumba because at the EIS stage it was the only town identified to host a dedicated worker accommodation facility for the project. Therefore, the facility's specific impacts on the community of Tumbarumba were required to be assessed. However, since the exhibition of the EIS, there have been changes to the worker accommodation facilities proposed for the project. Additional social impact assessment has been undertaken in *Technical Report 7 – Social Impact Assessment Addendum* of the Amendment Report assessing the five construction worker accommodation facilities including the addition of the new key community of Tarcutta, due to the inclusion of the Tarcutta accommodation facility and compound (AC03) in the amended project.

The NSW Government has several policies and programs aimed at improving employment outcomes, and project-induced social legacy initiatives including for Aboriginal and Torres Strait Islander people and the construction industry more generally. Relevant employment and social legacy policies, which include the Aboriginal Procurement Policy (APP) and Infrastructures Skills Legacy Program, are addressed in Section 3.2.2 of *Technical Report 7 – Social Impact Assessment* of the EIS.

Transgrid has developed a Community Investment and Benefits Plan to deliver positive outcomes for the community and achieve a positive social legacy from the project. Transgrid has completed a workshop on social impact reporting with the newly appointed construction contractors. The social impact reporting system established by Transgrid ensures its construction contractors are well equipped to deliver community benefits and achieve desired social, economic, and environmental outcomes. The system promotes coordinated efforts in progressing social programs and enables Transgrid to monitor and evaluate its community investments through monthly reporting. More information on Transgrid's Social Licence Program is available here: <https://www.transgrid.com.au/community/social-licence-program>.

Submitter ID numbers

S-63253974, S-63250970, S-63274723

Summary of issues raised

Submitters raised concerns about the influx of construction workers into the community. Specific comments included:

- small communities cannot support a large number of construction workers
- there will not be any positive social benefits for Batlow as there are no nearby worker accommodation facilities
- the project will impact Yass Valley's rental housing and accommodation availability and put greater pressure on community facilities such as Yass Hospital and local medical centres.

Response

Since public exhibition of the EIS, and in response to feedback from the community and stakeholders, the need for additional worker accommodation facilities to support construction of the project has been identified. As outlined in Chapter 3 (Description of amendments) of the Amendment Report, the amended project includes five new combined worker accommodation facilities and construction compounds:

- Tarcutta accommodation facility and compound (AC03) – located about 1.5 kilometres south-west of Tarcutta
- Adjungbilly accommodation facility and compound (AC04) – located about 21.7 kilometres east of Gundagai
- Yass accommodation facility and compound (AC05) – located on the north-western outskirts of Yass
- Crookwell accommodation facility and compound (AC06) – located off Graywood Siding Road, about 18.1 kilometres north of Goulburn
- Green Hills accommodation facility and compound (AC07) – located about 6.5 kilometres west of Batlow.

These facilities would replace the Tumbarumba accommodation facility (AC01) that was previously proposed and assessed in the EIS. Refer to Chapter 3 (Description of the amended project) of the Amendment Report for further details on the new combined worker accommodation facilities and construction compounds proposed in the amended project.

Technical Report 7 – Social Impact Assessment Addendum of the Amendment Report has considered the potential changes to social impacts as a result of the amended project. Potential negative impacts would remain predominantly localised and temporary during construction, although spatial distribution of these impacts has expanded. Potential negative impacts resulting from changes in the amended project would be mitigated and managed through the development of appropriate management plans.

Overall, the amended project would reduce negative social impacts as a result of the realignment of the transmission line corridor and the confirmed use of purpose-built worker accommodation facilities during construction.

Potential positive social impacts as described in *Technical Report 7 – Social Impact Assessment* of the EIS would remain the same for the amended project.

In response to concerns regarding social benefits at Batlow and social impacts on housing and community facilities at Yass, the following revised impacts and benefits are expected for the amended project:

- The deviation of the transmission line route to the west of Batlow through Green Hills State Forest would reduce the number of private residences within the project footprint. Surrounding land uses in this section are primarily production native forestry. Construction and operational amenity impacts to receivers along this section would be substantially reduced when compared to the EIS project.
- The development of the Yass accommodation facility and compound (AC05) and Green Hills accommodation facility and compound (AC07) would significantly reduce pressure on local accommodation supply, local traffic impacts and social impacts within these localities.
- The smaller communities of Tarcutta and Batlow may experience minor negative impacts related to social cohesion due to larger numbers of non-resident workers compared to their smaller resident populations. However, these impacts would be temporary in nature and limited to the construction phase of the project.
- The communities of Yass, Tarcutta and Batlow have an increased risk of impacts to transport and movement during construction due to the proximity of amended construction compounds and combined worker accommodation facilities and construction compounds. However, this risk is expected to be managed through the implementation of a Traffic and Transport Management Plan (TTMP).
- A noticeable increase in population and change in demographic characteristics in Yass and Batlow near combined worker accommodation facilities and construction compounds. However, as most of these facilities are not located directly within these town centres, day-to-day contact would be limited to non-standard hours and weekends. This impact would be temporary in nature and limited to construction of the project.
- The Yass accommodation facility and compound (AC05), being located within the north-western outskirts of the town of Yass is closer to several potentially sensitive receivers and as such, presents a higher likelihood and magnitude of impacts to amenity from its establishment. While effort would be taken, in conjunction with councils and service providers, to meet any shortfall, there may be some additional demand for emergency services and specialised medical services. This impact would be temporary in nature and limited to construction of the project.
- The combined worker accommodation facilities and construction compounds may also generate some increase in demand for leisure and recreation services in Yass and Batlow on weekends as workers remaining in facilities on the weekend may look for recreational activities within local centres.

As detailed in Chapter 5 (Engagement) of the Amendment Report, ongoing engagement by Transgrid with affected landowners and community members has occurred in relation to the amended project, EIS submissions received, and a range of subject areas relevant to potential social impacts detailed in *Technical Report 7 – Social Impact Assessment Addendum* of the Amendment Report. The stakeholders consulted have been selected based on sensitivity to potential impacts arising from the amendments and refinements to the project of which Transgrid will continue to consult with the affected communities to minimise potential impacts from the amended project.

7.4.6.3. Health and wellbeing

Submitter ID numbers

S-62653707, S-62674956, S-63274709, S-63274706, S-63252749, S-63266987, S-62688709, S-63269216, S-63065456, S-63269212, S-63125734, S-63146987, S-63104960, S-63252977, S-63252725, S-63183709, S-63125730, S-63190218, S-63253974, S-62963726, S-62976708, S-63146971, S-63250210, S-63250970, S-63249498, S-63274965, S-63249981, S-63252728, S-63250000, S-63076727, S-63229469, S-63190240, S-63196979, S-63250509

Summary of issues raised

Submitters raised concerns about the project's impact on the health and wellbeing of the community, including increased stress, anxiety and mental health effects, including:

- the ongoing health and wellbeing of family and friends, particularly older individuals, would be impacted
- health and wellbeing effects would occur from:
 - property impacts, including prolonged negotiations and interactions with Transgrid (including during the options selection process) and likely financial hardship
 - impacts on landscape character and visual amenity and noise
 - the increased bushfire risk and access restrictions to emergency services, with some submitters still suffering from the 2019-2020 bushfires
- the EIS has underestimated the perceived bushfire risk by classifying it as “unlikely, minimal, and low” in Table 13-10, noting there has been anxiety in the community regarding bushfire risks
- Transgrid's lack of care for the mental health impact on the community is concerning
- the project's impacts are understated and falsely conclude that mitigation strategies can reduce impacts to acceptable levels, which has affected the health and wellbeing of the community.

Response

Transgrid recognises that transmission projects – including their potential impacts and property negotiations – can have increased the level of stress and anxiety experienced by landowners. As such, Transgrid has engaged an external service provider – Assure Programs – to provide landowners with short-term support and counselling. The service is confidential and anonymous. Transgrid does not receive any information about who uses these services. There is no cost to landowners in accessing this service. More information on the service is provided at <https://www.transgrid.com.au/community/landowners/landowner-support-and-advocacy#Support-services-for-landowners>. Transgrid will continue to engage with neighbours and communities along the project footprint to minimise impacts as outlined in Sections 6.6 and 6.7 of the EIS. The purpose of the ongoing engagement is to:

- ensure a high level of process awareness remains for the community as construction progresses
- provide opportunities for ongoing community feedback
- ensure feedback or concerns are addressed in a timely manner with accurate information.

Technical Report 7 – Social Impact Assessment of the EIS and *Technical Report 7 – Social Impact Assessment Addendum* of the Amendment Report also acknowledge that stress and anxiety from uncertainty about changes to property and dwellings can create social impacts prior to any physical or detailed planning work being undertaken (Vanclay, 2017). Transgrid commenced engagement with easement affected landowners as early as practicable in order to minimise the potential for stress and anxiety associated with the project, including any concern associated with property, visual, noise, bushfire and access changes from the project.

All acquisitions or easements would be by agreement with affected landowners or in accordance with the requirements of the *Land Acquisition (Just Terms Compensation) Act 1991*. To minimise financial hardship to affected landowners, as outlined in Transgrid's *Guidelines for payment of professional fees in connection with land or easement acquisitions*, Transgrid will reimburse professional costs reasonably incurred by an affected landowner in connection with a land or easement acquisition proposed by Transgrid, between the date of an initial offer letter and the completion or discontinuance of the acquisition. For further information refer to https://www.transgrid.com.au/media/vg4nih34/tran_302164_guidelines-for-payment_web_fa.pdf

Transgrid understands and is aware of the traumatic experience people living near the proposed HumeLink project have had in relation to bushfires over many years, including the 2019 – 2020 summer. This was raised through formal submissions and also raised at community engagement sessions, with many in the community recalling the impacts of recent bushfires.

Transgrid acknowledges that the perceived risk of bushfire along the project footprint may elicit anxieties from those located in or near the project footprint. *Technical Report 13 – Bushfire Risk Assessment* of the EIS and *Technical Report 13 – Bushfire Risk Assessment Addendum* of the Amendment Report assesses the bushfire risk and provides mitigation measure to minimise those risks. Transgrid is continuing engagement with the NSW Rural Fire Service to develop management and mitigation measures that will be documented in specialist management plans and form part of the CEMP. The CEMP and supporting plans will require approval from DPHI prior to the commencement of construction. These include the development of a Bush Fire Emergency Management and Evacuation Plan. These plans will be made available on the HumeLink website, on the DPHI Major Projects Portal, and will be made available to community members on request.

Transgrid acknowledges the concern that the health and wellbeing of community members are being impacted. Transgrid also recognises that stakeholders may not have faith that the proposed mitigation measures can reduce impacts to acceptable levels. The mitigation and management measures proposed for the project have been developed based on the requirements of government and industry policies, guidelines and procedures. They have also considered feedback received from landholders, the community and government stakeholders. The CEMP and supporting plans will develop these management and mitigation measures further and will be developed to manage specific and local issues in greater detail. Ongoing community and stakeholder engagement will be a key part of the CEMP development. Strategies to manage potential social impacts will be included in the Social Impact Management Plan.

Monitoring programs, inspections and independent auditing would confirm the effectiveness of these measures. Further measures would be developed and undertaken if required, including the implementation of corrective and preventative actions for any actual or potential non-compliant activities.

7.4.6.4. Livelihoods

Submitter ID numbers

S-62510706, S-63543964, S-63274706, S-63266987, S-63267461, S-63269210, S-63269216, S-63264715, S-63119956, S-62910496, S-63146987, S-63264724, S-63269206, S-63125730, S-63190218, S-63250210, S-63196516, S-63190240, S-63250210, S-63249981, S-63076708, S-63250997

Summary of issues raised

Submitters raised concerns that the project will undermine tourism, particularly in the Snowy Mountains and Tablelands region, due to the likely landscape character and visual amenity impacts, noise impacts and scale of the transmission lines and associated structures.

A submitter also raised concern that the positive social benefits of increased tourism from temporary workers and their visitors are rated as high and that there are other negative social impacts that will occur during construction.

Response

Overall, as outlined in *Technical Report 7 – Social Impact Assessment Addendum* of the Amendment Report, no discernible impacts to livelihood from impacts to tourism are expected for the amended project.

Technical Report 7 – Social Impact Assessment of the EIS acknowledges tourism (particularly nature-based tourism) in the southern part of the social locality has contributed to the importance of these landscapes, as they are appreciated by tourists, local residents and visitors travelling through the landscape. The project would increase the presence of energy infrastructure within the forested areas of the Snowy Mountains where an additional easement and large vegetation clearance would detract from the landscape. However, as assessed in *Technical Report 8 – Landscape Character and Visual Impact Assessment Addendum* of the Amendment Report, no high impacts to landscape character and visual amenity at viewpoints (except at some private dwellings) are expected throughout the social locality from the amended project. *Technical Report 9 – Noise and Vibration Impact Assessment Addendum* of the Amendment Report assessed noise impacts for the amended project. Feasible and reasonable mitigation would be implemented to reduce the potential noise impacts during construction as outlined in Appendix B (Updated mitigation measures) including developing and implementing a Noise and Vibration Management Plan (NVMP).

Technical Report 7 – Social Impact Assessment of the EIS also acknowledged that stakeholders in Gundagai and Tumbarumba raised some concerns that the construction workers may have a negative impact on the tourism industry by taking up accommodation in the hotels and caravan parks/camping grounds leaving visitors to struggle to find accommodation when they visit the region. Wagga Wagga, Yass and Snowy Valleys Councils suggested that workers be accommodated in facilities in proximity to towns to enable local businesses to benefit from workers utilising their services while minimising the impacts to the housing market and local tourist accommodation.

Aligned with this, since public exhibition of the EIS, Transgrid has changed the worker accommodation facilities proposed for the project. Changes to the assessed tourism impacts would arise from the use of the purpose-built worker accommodation facilities and construction compounds in Tarcutta, Adjungbilly, Yass, Crookwell and Green Hills. In *Technical Report 7 – Social Impact Assessment* of the EIS potential impacts to tourism were assessed based on workers accessing temporary and/or rental accommodation, potentially

reducing overall availability of short-term accommodation. With workers to be housed within dedicated combined worker accommodation facilities and construction compounds for the duration of construction, these impacts are now eliminated. Furthermore, potential benefits arising from potential tourism by workers over the construction period would remain. This is because it is anticipated that some of the project workers may invite visitors to the key communities and they would most likely undertake tourism activities such as sightseeing or cultural activities within the key communities, resulting in temporary positive social and economic benefits of increased tourism.

Submitter ID numbers

S-62406709, S-62510706, S-63543964, S-63267461, S-63269210, S-63266956, S-63250210, S-63151711, S-63065456

Summary of issues raised

Submitters raised concerns that the project will undermine regional development and investment and affect the local community's livelihood.

Response

The project has been designed to minimise or avoid negative social impacts, where practicable and maximise the delivery of positive social impacts to the social locality. These positive impacts would occur through ongoing community funding for worker skills and regional development, support for local businesses and initiatives, and working with Regional Development Australia to maximise regional benefits for the Riverina and Murray regions.

In addition, mitigation measures proposed as part of *Technical Report 7 – Social Impact Assessment* of the EIS would enable the amended project to deliver on its predicted benefits. These include developing a Code of Conduct for construction workers to foster responsible behaviours, as well as mitigation measures around traffic, noise and vibration as detailed in Appendix B (Updated mitigation measures).

Transgrid is preparing a Community Investment and Benefits Plan to deliver positive outcomes for the community and achieve a positive social legacy from the project. In 2022, Transgrid provided community sponsorship funding of \$1.5 million for a 3–5-year Workforce Development Strategic Partnership with Regional Development Australia (RDA) Riverina at Wagga Wagga, to support programs for jobs and skills development in the EnergyConnect and HumeLink project footprints, covering the Murray and Riverina regions. The Partnership will leverage existing skilling and employment programs across both regions with committed cross-sectoral program partners to accelerate workforce development in the social locality.

Transgrid also has a [Community Partnerships Program](#) that offers grants of up to \$5,000 for not-for-profit organisations that are local to Transgrid's planning, operations, and major project areas, including the area surrounding HumeLink. To the end of 2022/2023 financial year HumeLink had offered grants to local organisations and initiative with a total investment of over \$140,000. Under this program, Transgrid is proud to invest in a variety of initiatives, focusing on those that provide education opportunities, environmental sustainability, safety and wellbeing, along with initiatives that energise communities.

Subject to planning and regulatory approvals, HumeLink will invest more than \$15 million in community benefit initiatives.

7.4.6.5. Way of life

Submitter ID numbers

S-63150957, S-63274706, S-63236479, S-63196979

Summary of issues raised

Submitters raised concerns about the project's impact on the liveability of the region, particularly the rural lifestyle. Some submitters raised amenity impacts, cumulative impacts near Wagga Wagga, and the project's effect on the intergenerational management of their property as reasons why liveability will be affected.

Response

Concerns are acknowledged regarding the project's impact on amenity and the liveability in the region including cumulative impacts near Wagga Wagga.

As outlined in the updated cumulative impact assessment in Chapter 6 (Assessment of impacts) of the Amendment Report, there is the potential for combined cumulative impacts to occur within the Wagga Wagga City LGA. The potential combined cumulative impacts would be due to the construction and operation of HumeLink and relevant future projects such as EnergyConnect (NSW – Eastern Section), Gregadoo Solar Farm, Inland Rail – Albury to Illabo, VNI West and the proposed Belhaven Battery Energy Storage System.

The potential combined cumulative impacts would be both positive and negative. The positive combined cumulative impacts would likely be associated with improved livelihoods for business operators and workers in the surrounding region due to increased patronage and access to employment. The presence of major electricity infrastructure projects being delivered by Transgrid could also support growth in a specialist industry for the region.

The negative combined cumulative impacts would likely be associated with overlapping or sequential construction timeframes with a number of major projects resulting in the following:

- increased impacts on agricultural land use and property during operation
- changes to accessibility due to increased construction traffic from the projects
- increased demand for accommodation and housing during construction of the project (however this has been reduced in the amended project due to the addition of five temporary worker accommodation facilities compared with one included in the EIS)
- increased impacts on landscape character and visual amenity during construction and operation
- increased impacts on amenity due to increased noise and/or dust impacts during construction.

Concerns about the project affecting the management of properties and the consequent way of life are acknowledged. The potential impacts on way of life arising from the construction and operation of the amended project would be similar to those described and assessed in *Technical Report 7 – Social Impact Assessment* of the EIS. Overall, it is unlikely that the amended project would have a material impact on the way of life for easement affected landowners and the neighbouring community once operational. Mitigation measures proposed to manage impacts associated with land use and property, traffic and transport, and amenity-related impacts will assist in minimising potential liveability impacts (refer to Appendix B (Updated mitigation measures)).

7.4.6.6. Other social impacts

Submitter ID numbers

S-62923210, S-63104960, S-63065456

Summary of issues raised

Submitters raised concerns about other social impacts from the project. Specific comments included:

- transmission lines may reduce enjoyment of the environment including the forested areas
- there is a lack of opportunity to challenge project decisions
- the project will directly impact a memorial dedicated to the submitter's deceased son and the associated spiritual significance, which cannot be compensated.

Response

Technical Report 7 – Social Impact Assessment of the EIS acknowledges tourism (particularly nature-based tourism) growth in the southern part of the social locality has contributed to the importance of these landscapes, as they are appreciated by tourists, local residents and visitors travelling through the landscape. The project would increase the presence of energy infrastructure within forested areas where an additional easement and vegetation clearance would detract from the landscape. As a result, the visual impact of the project may contribute to a sense of loss when viewed by those who may have formed an attachment to particular viewpoints and vistas within the landscape.

The amendments to the project have been developed in response to landholder concerns and to reduce impacts on private land. The amended project would reduce visual impacts on open country. The proposed route through Green Hills would impact more forested areas but offer better visual screening and reduced visual impacts compared to the EIS project in this section of the route.

As outlined in Chapter 3 (Description of the amended project) of the Amendment Report, the Green Hills corridor amendment was included as part of the amended project as a result of community feedback.

Chapter 6 (Engagement) of the EIS, Chapter 2 (Engagement) of this report, and Chapter 5 (Engagement) of the Amendment Report document the various ways the community has been engaged as part of the development of the EIS project and amended project. The mechanisms and opportunities for providing feedback on project decisions and how that feedback has been considered are also extensively documented in these chapters.

Transgrid will continue to consider feedback on the project as it is raised, such as the identified potential impact on a significant memorial. Localised refinement of transmission line structure locations would be completed as part of the design development. This would assist to avoid and/or minimise local impacts on individual properties. This matter would be discussed privately with the landowner out of respect for any sensitivities or personal significance these matters may hold.

7.4.7. Landscape character and visual amenity

7.4.7.1. Methodology

Submitter ID numbers

S-61852720, S-62084706, S-63150957, S-62731707, S-62977986, S-63250997, S-64565709, S-63274723, S-63250210, S-63190238

Summary of issues raised

Submitters raised concerns that the landscape character and visual impact assessment was considered inadequate, with not all impacts identified. Specific comments include:

- the planning principles for 'view sharing' regarding regional landscape settings have not been adequately applied
- the qualifications and expertise of the landscape character and visual impact assessment consultant have not been substantiated
- no cumulative assessment of the impact on landscape character from HumeLink and EnergyConnect projects has been undertaken for residences and public viewpoints south and west of the Willans Hill range, including Koorngal, Lake Albert, Tatton and Springvale
- the visibility assessment of transmission line structures must be extended beyond two kilometres as the structures will be visible at greater distances
- visual impacts need to be considered for the entire property, not just the dwelling, as the entire property is used for work and living
- the landscape character zones are insufficient, and an additional landscape character zone is required for the Gunning/Merrill landscape, given its unique characteristics.

Response

Technical Report 8 – Landscape Character and Visual Impact Assessment of the EIS was prepared to address the SEARs. It addressed the outcomes of the engagement with potentially affected landowners on matters relating to visual impacts since early 2020. The assessment was also guided by industry best practice guidelines, including:

- *Guideline for Landscape Character and Visual Impact Assessment EIA-N04* (Transport for NSW, 2020)
- *The Guidance Note for Landscape and Visual Assessment* (Australian Institute of Landscape Architects Queensland, 2018)
- *The Guidelines for Landscape and Visual Impact Assessment (Third Edition)* (Landscape Institute and Institute of Environmental Management & Assessment, 2013).

Section 4.4 of the *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS also provided consideration of the view sharing principles in the approach to the assessment of visual impact on views for private properties. The view sharing principles were established in the judgment of the Land and Environment Court of NSW in *Tenacity Consulting v Warringah Council* [2004] NSWLEC 140. While the view sharing principles are more suitable for urban settings, the principles can be applied to regional landscape settings in a more general way and with considerations of scenic preference appropriate for the range of landscapes available within the setting of the project. In applying the principles in a general way, the assessment of the project is therefore not reliant on the principles established in this judgment. This approach is consistent with DPE's *Draft Transmission Guideline: Technical Supplement – Landscape and Visual Impact Assessment* (2023c), which is currently on exhibition.

Technical Report 8 – Landscape Character and Visual Impact Assessment of the EIS was prepared by IRIS Visual Planning + Design. The author is a suitably qualified and experienced Registered Landscape Architect with more than 25 years of experience specialising in landscape and visual assessment, landscape planning and design. The author has undertaken assessments for several State significant infrastructure projects in NSW and major projects in Queensland.

The assessment of cumulative landscape character impacts from HumeLink and EnergyConnect used the rural fringe landscape character zone, which includes the Wagga Wagga rural fringe landscape character area. As shown in Attachment C of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS, the Wagga Wagga rural fringe landscape character area includes areas of Lake Albert, Tatton and Springvale. Koorngal is beyond the study area used for the landscape character assessment (an area that extends to approximately five kilometres from the project footprint).

As outlined in *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS, the study area for this technical report comprised an area which extended to approximately five kilometres from the project footprint for landscape character and to about two kilometres from the project footprint for visual impacts. The visibility assessment focused on views within two kilometres of the project. This distance is based on the scale and visual characteristics of the project elements. It is acknowledged that the project elements would be visible beyond two kilometres depending on the topography and land cover such as vegetation and built form. However, views of the project from distances of two kilometres or more would be as part of the landscape context, whereas the area within the two kilometres of the project is where there is the potential for the greatest visual impact.

The visual impact assessment uses representative viewpoints within the public domain and views from private properties. Section 4.4.1 of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS notes that there are no visual impact guidelines for energy transmission projects in NSW at the time of development. As such, the visual impact assessment for the project was guided by the *Technical Supplement – Landscape and Visual Impact Assessment, Large-Scale Solar Energy Guideline* (DPE, 2022e). The technical supplement states that for views from private properties, the assessment must focus only on views from the dwelling, not the property boundary or other parts of the property. This approach has been applied to the project and is an accepted approach used on other major projects. Since preparation of the EIS, the *Draft Transmission Guideline – Technical Supplement for Landscape and Visual Impact Assessment* (DPE, 2023c) has been exhibited for consultation by DPHI. This guideline has not been finalised and does not apply to the project as the SEARs for the project have already been issued.

The methodology for identifying landscape character zones and sub-character areas for the landscape character assessment is detailed in Section 4.2 of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS. The Gunning/Merrill landscape is represented by two landscape character zones/sub-character areas, including:

- undulating rural hills and ridges landscape character zone/Jerrawa to Dalton undulating rural hills and ridges landscape character area
- rural tablelands landscape character zone/Crookwell rural tablelands landscape character area.

The Gunning/Merrill landscape is considered appropriately represented by the two landscape character zones/sub-character areas due to its elevated and gently undulating landform, which also consists of areas of cleared land used for agricultural purposes. As such, a further landscape character zone is not required.

Submitter ID numbers

S-63274723, S-63146971, S-63250210, S-63250997, S-63076708

Summary of issues raised

Submitters raised general concerns about the accuracy of the landscape character and visual impact assessment. Specific comments included:

- concerns a photograph taken from Wargeila Road has been altered to exclude the dwellings on Zouch Road and Fairy Hole Road to attempt to minimise visual impacts
- the photo used in the EIS to represent the rural valleys landscape character zone is not representative of the undulating hills of the submitter's property
- clarification is required to understand if the transmission line structures were only assessed or whether the transmission lines were also included
- the description for Figure 6-6 has incorrectly noted that 500 kV transmission line structures are similar to existing 330 kV structures
- the description of Rye Park Wind Farm does not reflect the wind farm's actual visibility to dwellings west of Bango Nature Reserve, which downplays the potential cumulative visual impacts and suggests the assessment is based too much on desktop analysis
- the description of the 'Rural fringe landscape/rural areas to the south of Wagga Wagga' landscape character zone is not correct and is appreciated by more people than suggested
- descriptions that Yaven Creek and Adelong Creek rural valleys are flat to gently undulating open plains are incorrect.

Response

Transgrid acknowledges the concerns around the visual impact to private dwellings, however Wargeila Road was not photographed as part of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS. Photographs have generally been used for informative purposes rather than assessment to represent landscape character zones are typical of the landscape character zones and sub-character areas.

The rural valleys landscape character zone consists of flat to gently undulating, open planes containing mainly grazing pastures, with some areas of arable fields. The photo used in the EIS attempted to represent the rural valleys landscape character zone that is typical of gently undulating hills in the area.

The visual impact assessment considered the impacts of all project elements, including transmission lines and associated structures.

The description used for Figure 6-6 of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS states 'the Lower Tumut to Upper Tumut 330 kV transmission lines, which largely align to the project'. To clarify, this statement was meant to indicate that the project's 500 kV transmission lines generally run parallel to these 330kV transmission lines and not that they are similar in nature.

The description of Rye Park Wind Farm in Table 8-1 of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS discusses where there is potential for the greatest visual impact, which is east of Bango Nature Reserve, where Rye Park Wind Farm and HumeLink share an interface and a potential cumulative impact.

The comments about the rural fringe landscape character zone/Wagga Wagga rural fringe landscape character area and rural valleys landscape character zone/Yaven Creek and Adelong Creek rural valleys landscape character area are noted. The landscape sensitivity and impact levels would remain as described in Section 6.2 of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS.

Submitter ID numbers

S-63266958, S-62977986, S-63250997, S-63274723, S-62731707

Summary of issues raised

Submitters raised concerns about the assessed level of impact or level of visibility assigned to their dwelling, with submitters suggesting levels were incorrectly assessed or assigned lower impact values.

Response

Concerns raised about the assessed level of impact and level of visibility assigned to dwellings are acknowledged. Chapter 4 of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS details the methodology used to assess the project's visual impacts. The methodology used industry best practice guidelines and standards to ensure a consistent approach was applied throughout the project. *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS was prepared by IRIS Visual Planning + Design. The author is a suitably qualified and experienced Registered Landscape Architect with over 25 years of experience specialising in landscape and visual assessment, landscape planning and design. The author has undertaken assessments for several State significant infrastructure projects in NSW and major projects in Queensland.

The assessment was also supported by site inspections carried out during March and September 2022 to verify the results of the preliminary viewshed analysis. The dwellings not visited have been assessed considering available desktop data, aerial photography and observations from nearby dwellings and roads where possible. However, it is noted that there is no one measure that can determine visual impact, and the assessment relies on expert opinion in assigning impacts.

Submitter ID numbers

S-62494957, S-62731707, S-63148207, S-63146971, S-63250997, S-63249225, S-63252725, S-63250210, S-62910496

Summary of issues raised

Submitters raised concerns about the photomontages used in the landscape character and visual impact assessment. Specific comments included:

- the photomontages appear to underplay and understate the project's visual impact and do not provide enough context from the existing environment to indicate the scale of the transmission line structures
- the photomontages prepared have been selected to not show viewpoints with a high visual impact or where cumulative impacts may be experienced
- concerns the photomontage for viewpoint 10 has been removed from the EIS
- the photomontages are not representative as they have cloudy backgrounds, and easements are not shown to be cleared
- photomontages should have been created for visually sensitive low-lying suburban residential areas (eg Lake Albert foreshores)

- the photomontage for the proposed Gugaa 500 kV substation is grainy and unclear and doesn't represent the likely impact of surrounding dwellings
- requests for perspectives to be created from the 'NEARA 3D Visualisation Tool' to give a more accurate visualisation as the photomontages in the EIS do not reflect the likely impacts.

Response

Section 4.7 of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS describes the methodology used to prepare the photomontages. The public domain viewpoints used to create these photomontages were chosen to represent a range of viewing locations along the transmission line route from a distance and orientation where the project would be most visible. The photomontage locations were also chosen to illustrate views from areas with the greatest visual sensitivity and where the greatest number of viewers would be located. As such, not all 28 viewpoints assessed in the EIS had an associated photomontage prepared.

During the public exhibition period, a community member identified that there was an incorrect reference to a photomontage being prepared for Viewpoint 10 in Attachment E – Viewpoint location plan (Ellerslie Range to Tumut and Batlow) of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS. A community submission also raised concerns that the photomontage for Viewpoint 10 was omitted (refer to Section 4.4.2).

On review, it was confirmed that Attachment E – Viewpoint location plan (Ellerslie Range to Tumut and Batlow) of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS did incorrectly have a reference indicating a photomontage had been prepared for Viewpoint 10. No photomontage for Viewpoint 10 was prepared as part of the EIS.

No public-domain viewpoints were assessed to have a high visual impact. However, photomontages were prepared for private dwellings assessed as having a high visual impact, which are provided in Attachment I of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS. Photomontages showing potential cumulative impacts were not considered necessary due to limited project overlap or limited sensitive receivers or, in some cases, practical due to the various stages of the projects that were considered in the cumulative impact assessment.

Photographs used to prepare the photomontages were taken during the site inspections in March and September 2022. While it is acknowledged that some photomontages show cloudy or overcast conditions, these conditions are also shown in the original photographs that accompany the photomontage in Attachment F of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS. As noted in Section 4.7 of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS, where appropriate, edits to the photograph were made in Photoshop, including the removal of vegetation. This was undertaken to depict easement clearing zones associated with the transmission lines. Lake Albert foreshores was not deemed a location of higher sensitivity viewpoints due to its location over three kilometres from the Wagga Wagga 330 kV transmission lines. The visibility assessment focused on views within two kilometres of the project, where there is the potential for the greatest visual impact.

The photomontage of the proposed Gugaa 500 kV substation is based on viewpoint VP2, which is a view south from Livingstone Gully Road. This is the closest public viewing location to the proposed substation. An updated photomontage of the proposed Gugaa 500 kV substation is included in *Technical Report 8 – Landscape Character and Visual Impact Assessment Addendum* of the Amendment Report. Construction of the Gugaa 500 kV substation would be more prominent in this view, with the substation located closer to the road and more visible.

The request for perspectives to be created from the 'NEARA 3D Visualisation Tool' are noted. The NEARA 3D Visualisation Tool was developed as a design tool for engineering purposes but has the functionality to generate 'rough' screen grabs based on imported geospatial data.

The NEARA imagery is not suitable for the purpose of this visual impact assessment due to its limitations and the potential for inconsistencies with what was presented in *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS. The photomontages and 3D modelled views generated for the EIS represented realistic vantage points, with each view accurately aligned using 3-dimensional point cloud data by a visualisation specialist.

The NEARA 3D Visualisation Tool has limitations in relation to the quality and detail of the 3D modelling (ie of the transmission infrastructure), it has no camera alignment capability, and does not present true cylindrical projection of 180-degree panoramas to minimise distortion. The NEARA imagery output is limited to screen grabs from the viewport with no high resolution rendering available.

Submitter ID numbers

S-62731707, S-63250210, S-63076708, S-63250997, S-63249225, S-63274723, S-64565709

Summary of issues raised

Submitters raised concerns that the viewpoints are not representative of where the impacts will likely be experienced by the community. Specific comments included:

- further justification that the viewpoints selected for visual impact assessment are of the 'greatest visual sensitivity' or are likely to experience the 'greatest number of viewers' is required
- the number of publicly accessible viewpoints is not sufficient, and further viewpoints are requested
- viewpoint 1 is not representative of the visual impact on the Gregadoo Great Dividing Range foothills landscape, and a location viewing south-west from anywhere up to a kilometre south of the Gregadoo East Road/Ashford Road intersection would be more representative
- viewpoint 6 is not representative as it masks the view of the existing 330 kV transmission line and where the project infrastructure and easement will be.

Response

The approach to selecting representative viewpoints for the project is described in Section 4.3 of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS. The approach involved a detailed visibility analysis to identify the areas from which views of the project may be seen. Site inspections were used to verify the results of the visibility analysis. The visibility analysis is included in Attachment D of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS. The final viewpoints selected were from areas where the greatest number of viewers are likely to congregate, such as lookouts, road corridors and scenic routes, as well as locations in sensitive recreational and natural areas.

Overall, 28 viewpoints were selected for the assessment in *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS. All dwellings considered in the EIS as well as additional dwellings identified during the submissions phase of the project, were assessed or reassessed for the amended project. Viewpoints where the level of impact had the potential to change as a result of the amended project were reassessed. An additional eight viewpoints were selected to assess the visual impact of the amended project in *Technical Report 8 – Landscape Character and Visual Impact Assessment Addendum* of the Amendment Report. These viewpoints were selected to represent views of the amended transmission line

corridor in the vicinity of Green Hills State Forest, and from locations where a transposition site (duplication of the line) or a worker accommodation facility is proposed. A total of 36 viewpoints have been assessed for visual impacts to the amended project noting that viewpoint VP6 was reassessed as part of *Technical Report 8 – Landscape Character and Visual Impact Assessment Addendum*.

As described in Section 7.1.2 of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS, viewpoint VP1 is located in the rural fringe landscape character zone/Wagga Wagga rural fringe landscape character area. This location is representative of potential visual impacts in the rural fringe landscape south of Wagga Wagga.

The existing Lower Tumut to Wagga 330 kV transmission line and associated structures can be seen in the background of viewpoint VP6, descending from the Eilerslie Range. The project's new 500 kV transmission line and associated structures would be aligned parallel to the existing easement.

Submitter ID numbers

S-63252956, S-62731707, S-63274723, S-63148207, S-63226712

Summary of issues raised

Submitters raised concerns about the private dwelling assessments and associated site inspections. Specific comments included:

- clarification is required as to why detailed assessments were not undertaken for private dwellings identified as H20, H21 and H23, and Hillas Farm Homestead
- Attachment G of the landscape character and visual impact assessment states that 112 Ivydale Road was not visited, but the submitter claims it was visited numerous times to prepare a photomontage
- the submitter refutes statements in the landscape character and visual impact assessment regarding no property site visits, as Transgrid's Place Manager has visited the property several times
- the project will have visual impacts on the submitter's property, but no site inspection was undertaken as per Transgrid's *Landscape Character and Visual Impact (LCVIA) Fact Sheet (2023g)*.

Response

The process for assessing the visual impact on views for private properties is detailed in Section 4.4 of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS. In summary, this included a two-stage assessment approach. Stage 1 involved a preliminary desktop assessment to identify dwellings with the potential for a moderate or higher visual impact. Stage 2 involved a detailed assessment of those dwellings to confirm their visual impact level. This included a visit to some dwellings to photograph views.

The private dwelling identified as H20 was subject to a detailed assessment and confirmed a moderate potential visual impact (refer to Table 7-3 of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS). However, H20 was one of the dwellings not subject to a site inspection by the landscape and visual impact assessment specialist – IRIS Visual Planning + Design, and therefore, a photomontage was not prepared and included in Attachment I of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS. Due to the level of potential visual impact, H20 would be subject to revised mitigation measure LV5, which includes opportunities for screening vegetation to be investigated (refer to Appendix B (Updated mitigation measures)). The level of impact for H20 has not changed for the amended project as detailed in *Technical Report 8 – Landscape Character and Visual Impact Assessment Addendum* of the Amendment Report.

Private dwellings identified as H21 and H23, and Hillas Farm Homestead, were not identified as having a moderate or higher visual impact and, therefore, were not subject to a detailed assessment as per the approach in Section 4.4 of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS.

Attachment G of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS includes a list of private dwellings where site inspections were carried out by IRIS Visual Planning + Design. Visits by Transgrid's Place Manager or Land Access Officers are for different purposes. No site inspection of 112 Ivydale Road was undertaken by IRIS Visual Planning + Design in support of the landscape character and visual impact assessment for the project.

The site inspections described in Transgrid's *Landscape Character and Visual Impact (LCVIA) Fact Sheet* (2020g) summarises the approach to assessing visual impacts on private dwellings in Section 4.4 of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS. As noted above, a site inspection for the purposes of assessing visual impacts on a dwelling had to be identified as having the potential for a moderate or higher visual impact and be undertaken by a suitably qualified specialist. However, where landowners are still concerned about potential visual impacts Transgrid is happy to meet with landowners and discuss these concerns directly.

7.4.7.2. Existing environment

Submitter ID numbers

S-63250210, S-63274723

Summary of issues raised

Submitters raised concerns about the consideration of dwellings and other sensitive receivers. Specific comments included:

- three dwellings in the Merrill region and the dwelling at 6 Zouch Road, Yass, were missed from the visibility plans included in the landscape character and visual impact assessment
- the Bicentennial National Trail was not considered in the landscape character and visual impact assessment.

Response

The three dwellings identified in the Merrill region were reviewed and found to have been inadvertently omitted from *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS. These dwellings have been added to the visual impact assessment as part of the amended project in *Technical Report 8 – Landscape Character and Visual Impact Assessment Addendum* of the Amendment Report. For reference:

- the dwelling identified as 'A' has been assigned as 'R36'
- the dwelling identified as 'B' has been assigned as 'R81'
- the dwelling identified as 'C' has been assigned as 'R82'.

The three dwellings are located 560 metres (R36), 1.5 kilometres (R81) and 1.2 kilometres (R82) from the amended project footprint. At these distances from the project, it is unlikely these sensitive receivers would experience moderate or higher visual impacts.

Technical Report 8 – Landscape Character and Visual Impact Assessment of the EIS refers to property address 6 Zouch Road, Yass as receiver O45 and was assessed as part of the preliminary desktop assessment of visual impact from private dwellings in Attachment G.

The Bicentennial National Trail is a multi-use trail that extends from Cooktown in far north Queensland to Healesville, north-east of Melbourne, a distance of over 5,300 kilometres. The section of the trail that passes the project footprint follows Bannister Lane, an unsealed road, passing through rural fields. The project would intersect with the trail, where there are some existing mature roadside trees that would be removed. There would be clear views of the project from users of the trail.

The Bicentennial National Trail currently intersects with a range of large-scale infrastructure corridors as it passes through the Queensland, NSW and Victorian countryside. The views of the project would be for a short duration, and views of energy and transmission infrastructure would not be unexpected on a trail of this length.

The project intersects with a location of no particular importance within the trail, not being a destination, such as a lookout, or an area of particularly high scenic quality. The views experienced from this section of the trail are commonly experienced within this area. The trail has low visitor numbers, being mostly a road used for access to local properties rather than as a recreational trail. As such, the views are considered of local visual sensitivity.

During construction and operation, there would be a moderate magnitude of change, resulting in a moderate-low visual impact due to the removal of trees and scale of the transmission line structures when viewed from a location approaching and directly under the transmission line structures. However, there would be no material visual impact on the amenity of the trail as a whole.

The above consideration of Bicentennial National Trail would also apply to the amended project due to the limited difference in this locality.

7.4.7.3. Construction impacts

Submitter ID numbers

S-62731707

Summary of issues raised

A submitter suggested visual impacts associated with constructing transmission line structures should not be described as temporary, as the structures will not be removed. Impacts should be described as permanent.

Response

The use of 'temporary' around the construction impacts relates to the construction support infrastructure and equipment such as cranes, trucks and other construction activities. The construction impacts are described as temporary because large equipment and support infrastructure would be removed once construction has been completed. The permanent transmission lines and structures have been assessed in *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS and *Technical Report 8 – Landscape Character and Visual Impact Assessment Addendum* of the Amendment Report.

7.4.7.4. Operational impacts

Submitter ID numbers

S-62401209, S-63131973, S-63544467, S-63179462, S-63189959, S-62653707, S-62510706, S-63543964, S-63274706, S-63252732, S-63266987, S-63270717, S-63271464, S-62688709, S-63267461, S-63269210, S-63269216, S-63264715, S-62774492, S-63236736, S-63236479, S-63195227, S-63105473, S-62870206, S-63065456, S-63269212, S-63229475, S-63119956, S-63075710, S-62999456, S-63058234, S-63125716, S-63140711, S-62731707, S-62904959, S-63271456, S-63541721, S-63146987, S-63252730, S-63246464, S-63104960, S-63219970, S-63252977, S-63252725, S-63269206, S-63183709, S-63125730, S-63190218, S-63287206, S-62963726, S-62976708, S-63146971, S-63250210, S-63250970, S-63190238, S-63249498, S-63274965, S-63250997, S-63252728, S-63226712, S-63076727, S-63250004, S-64565709, S-63249225, S-63190240, S-63196979, S-63274723, S-63800206, S-63229469

Summary of issues raised

Submitters raised concern about the significant landscape character and visual amenity impacts the project would have during operation. The establishment of easements, removal of trees, the height and scale of the transmission line structures, and proximity to the project were raised as the submitters' main reasons for the impact. A number of submitters suggested the visual impacts will extend for kilometres beyond the project. Specific locations identified as being impacted include Bannister, Bookham, Wagga Wagga, Gregadoo, Derringullen Falls, Mudjarn Nature Reserve, Batlow, Snubba Range, Snowy Valleys, and Darlow.

Response

Approaches to avoid and minimise permanent impacts on landscape character and visual impacts have been considered in the development of the final transmission line corridor for the amended project. This included considerations such as paralleling existing transmission lines and locating the transmission line corridor away from towns, where practicable.

However, during operation, the new permanent infrastructure elements (including the new transmission lines and structures, proposed Gugaa 500 kV substation and modification to the Wagga 330 kV and Bannaby 500 kV substations) would be visible from some viewpoints. There would be higher impacts where the landscape is more open, the transmission line changes direction, and the project extends across broad valleys and hills where there are no existing transmission line structures in view. The landscape character and visual impact assessment considered indicators such as proximity of proposed transmission line corridor, existing vegetation, landform and topography, and visibility of the infrastructure. It is acknowledged that areas within new transmission line easements where vegetation clearance is required and the height of individual transmission line structures would influence the magnitude of impacts experienced.

Technical Report 8 – Landscape Character and Visual Impact Assessment of the EIS assessed the landscape character impacts the project would have during operation. It found that the Great Dividing Range foothills, Upland forest and Undulating rural hills and ridges landscape character zones are expected to experience moderate landscape impacts during operation as a result of the visual changes from the project. All other landscape character zones would experience low or negligible impacts. The visual impact assessment from private viewpoints has identified impacts rated high for some private dwellings located close to the proposed transmission line.

Since public exhibition of the EIS, the transmission line corridor has been amended, which has resulted in some changed impacts in relation to landscape character and visual amenity during operation. *Technical Report 8 – Landscape Character and Visual Impact Assessment Addendum* of the Amendment Report presents an assessment of impacts of the amended project. This includes a reduction in the impacts on the Batlow undulating rural hills and ridges landscape character area, due to the relocation of the transmission line corridor through Green Hills State Forest. There would be an increase in the impact on the Green Hills forested hills landscape character area, from low to a moderate-low during operation as the alignment moved west to Green Hills, however, this impact would be experienced in the less sensitive plantation forestry area.

As per revised mitigation measure LV5, where there is a potential view to the project from the primary view of a residential dwelling, resulting in a moderate to high visual impact, visual screening and other potential mitigation measures would be considered in consultation with affected landowners with an aim to reduce the visual impact of the project.

Attachment D in *Technical Report 8 – Landscape Character and Visual Impact Assessment Addendum* of the Amendment Report provides a map that has been prepared to illustrate the potential visibility of the amended project, ie how far the visual impacts may extend beyond the project. This visibility analysis uses a digital terrain model and points on the top of the indicative location based on the concept design of each transmission line structure along the indicative transmission line route, to identify the areas from which views to the amended project may be seen. The analysis shows areas where a greater number of transmission line structures are visible, as a darker colour. The model does not include land cover features (ie trees and buildings) and therefore represents a worst-case scenario.

Submitter ID numbers

S-63226712, S-62731707, S-62688709, S-63252977, S-63219970, S-63249225, S-63274723, S-64565709, S-63250210, S-63250997

Summary of issues raised

Submitters raised specific concerns about the landscape character and visual amenity impacts of the project during operation, including:

- the assessment of visual impacts and conclusions for the 'Rural fringe landscape/rural areas to the south of Wagga Wagga' landscape character zone is contradictory to the aims and requirements of the Wagga Wagga LEP and DCP
- intervening vegetation between the project and residences on Zouch Road cannot minimise visual impacts as the vegetation is sparse and too short compared to the height of the transmission line structures
- concerns regarding the visual impact on national parks and nature reserves in proximity to the project and requests for the project to be located beyond a kilometre from these areas to reduce visual impacts to acceptable levels
- by avoiding the Crookwell 2 Wind Farm, the project impacts the visual amenity of Pejar Dam and its surroundings, which would have been minimised if the transmission line route remained parallel with the existing 330 kV transmission line
- visual amenity impacts will be compounded in sections where the 500 kV transmission line parallels the existing 330 kV line.

Response

Section 3.2.1 of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS provides a discussion of how the project and its assessment meets the aims of the Wagga Wagga LEP and DCP. While the project has considered the aims and principles within the Wagga Wagga LEP and DCP, the project is not required to strictly adhere to these documents as it is declared Critical State Significant Infrastructure.

For residences where the project is predicted to have a moderate to high visual impact, opportunities for screening vegetation would be investigated as per revised mitigation measure LV5. Appropriate visual screening (such as planting of vegetation) or other options would be confirmed in consultation with the affected landowner and implemented where practicable. However, it is noted that the dwellings assessed on Zouch Road would not be considered for visual screening, such as planting of intervening vegetation, as they are not considered to experience a likely potential moderate or higher visual impact from the project.

The project has aimed to minimise visual impacts on areas in proximity to national parks and nature reserves as much as practicable due to recognition of their scenic and biodiverse value.

Technical Report 8 – Landscape Character and Visual Impact Assessment of the EIS assessed the potential impact on the view north from the Pejar Dam visitor area as low. This is because the project would be seen in the background of this view, in the context of an existing wind farm with large scale wind turbines and transmission line easement. The proposed new 500 kV transmission line structures would be evenly spaced, extending across the hilly terrain in the background of view, and crossing the dam parallel to the existing transmission line. While the project would be visible, it would not be visually prominent nor change the prevailing character of the view. Views of the dam in the fore and middle ground would remain unobstructed.

Due to the separation distance requirement between 500 kV transmission lines and wind turbines, it is not technically feasible to parallel the existing 330 kV transmission lines through the Crookwell Wind Farm.

Paralleling of existing transmission line easements where practicable is generally considered a strategy to minimise overall visual impacts from the project as it minimises creating new areas with transmission lines where there is no visual precedent. The presence of existing transmission infrastructure in certain views and landscapes has been taken into account in the assessment, where it may add to visual clutter and detracting from the landscape.

7.4.7.5. Management of impacts

Submitter ID numbers

S-62731707, S-63125730, S-62663503, S-62910496, S-62494957, S-62977986, S-62910496, S-63146971, S-63250210, S-63250997, S-63252728, S-63226712, S-63190238, S-63249981

Summary of issues raised

Submitters raised concerns about how visual impacts will be managed. Specific comments included:

- further mitigation is required to reduce the project's visual impact on nearby residences and businesses, including consideration of engineered solutions such as earth mounds
- assurance that mitigation measures will be in place to reduce visual impacts for landowners, neighbouring properties and communities

- meaningful consultation with the affected community and landowners beyond those directly impacted, should be undertaken to consider alternative transmission line structures or locations to reduce visual impacts
- clarification is requested on the status of landowner consultation on visual screening, including whether landowners with a high visual impact have been contacted and if so, how many
- concerns about the effectiveness of screening visual impacts given the size of the transmission line structures and the likely height that trees will grow to
- screening to mitigate visual impacts on a farming property will be inappropriate as it is the entire property, not just the dwelling that the residents use
- Transgrid should be responsible for documenting, establishing and maintaining visual screening in negotiation with affected landowners and public authorities and include a compensation payment.

Response

As per revised mitigation measures LV5, for residences where the project is predicted to have a moderate to high visual impact, opportunities for screening such as vegetation would be investigated throughout further detailed design and construction. This further consultation with affected landowners will occur when additional design development required for the amended project and project approval has been undertaken. Appropriate visual screening would be confirmed in consultation with the affected landowner and implemented where practicable.

The proposed location/form of any proposed visual screening would be assessed on an individual basis for each affected property, as it would need to be tailored to the view to be effective. It is acknowledged that screening would not be able to be implemented for all views on a property, only residences with moderate to high visual impacts in accordance with revised mitigation measure LV5 (refer to Appendix B (Updated mitigation measures)).

Transgrid values the views of all community members regarding the project and has carried out almost 100 community information sessions and webinars for the broader community to gather feedback during development of the project (refer to Chapter 6 (Engagement) and Appendix C (Engagement Outcomes Report) of the EIS). Transgrid will continue engaging on HumeLink, and we encourage community members to share their engagement ideas.

Visual impact considerations were also important during the refinement of the transmission line corridor as discussed in Appendix E (Options Report) of the EIS. Visual screening is required to be maintained by the landowner. However, the compensation payment for easement affected landowners would consider aspects such as impacts on visual amenity.

Submitter ID numbers

S-63194462, S-63233458

Summary of issues raised

Submitters raised concerns about potential light pollution from the proposed Gugaa 500 kV substation and suggested alternative measures be put in place to manage impacts, eg turning off the lights when workers are not in attendance, and use of infrared CCTV for security.

Response

Section 14.5 of the EIS and Section 7 of *Technical Report 8 – Landscape Character and Visual Impact Assessment* of the EIS detail operational impacts of the project. The night-time visual impact assessment notes there would be negligible impacts across the majority of the landscape character zones during the night-time operation of the project. This is due to the lack of lighting along the transmission line route as well as the decommissioning of the construction compounds and worker accommodation facilities following construction.

Low-level lighting is proposed at Gugaa 500 kV substation, affecting the Gregadoo to Book Book rural valleys landscape character area, where there would be a moderate-low visual impact at night. The submitters' suggestions are acknowledged and the extent and detail of project lighting, required during construction and operation, is not yet defined and is subject to further detailed design. Assumptions have been made as to the type and extent of lighting required however motion-activated lighting and infra-red CCTV light at night would be considered to minimise impacts on surrounding sensitive receivers. White-light would be required when motion is detected or in the rare occurrence that a security alarm is activated. Mitigation measure LV6 would however manage the impacts from lighting at the substation in accordance with the *AS/NZS 4282:2019 Control of the obtrusive effects of outdoor lighting* guidelines.

7.4.8. Noise and vibration

7.4.8.1. Methodology

Submitter ID numbers

S-63150957, S-63250479, S-63233458, S-63196979, S-62977986, S-63148207, S-63252730, S-63250210, S-63190238

Summary of issues raised

Submitters raised concerns about the adequacy of the noise and vibration assessment for the project. Specific comments included:

- concerns the assessment is only an estimate of noise and vibration levels, and no factual data has been used to determine impacts
- noise impacts need to be considered for the entire property, not just the dwelling, as the entire property is used for work and living
- impacts from the transmission lines, including during rain events at various distances, have not been considered
- impacts from the proposed Gugaa 500 kV substation have not been considered.

Response

Technical Report 9 – Noise and Vibration Impact Assessment of the EIS was prepared in accordance with the requirements of the SEARs and relevant NSW government policy guidelines and standards. The methodology used to assess potential noise and vibration impacts is detailed in Chapter 4 of the *Technical Report 9 – Noise and Vibration Impact Assessment* of the EIS. The modelling undertaken to estimate the noise and vibration levels was guided by NSW government policy guidelines and standards, such as the *Noise Policy for Industry* (NPfi) and *Interim Construction Noise Guideline* (ICNG) and used industry-accepted calculations and software to provide a consistent and analytical approach to determining likely impacts.

In addition, the potential noise impacts were modelled based on background noise monitoring data collected specifically for the project. The background noise monitoring locations were selected with reference to the ICNG and NPfl procedures to establish representative background noise levels across the project footprint and surrounding land uses. As such, the potential impacts presented in the EIS are based on noise levels representative of the project footprint and surrounding land uses.

During construction, noise and vibration monitoring will be carried out in accordance with mitigation measures NV5 and NV7 to confirm actual noise and vibration levels. Operational noise monitoring is also proposed in accordance with the revised mitigation measure NV9 for receivers where potential operational noise levels are predicted to exceed project trigger levels. This operational monitoring will also confirm the actual noise levels and the need for noise mitigation. Refer to Appendix B (Updated mitigation measures) for further details on mitigation measures.

It is acknowledged that some properties can be used for both work and living. However, for the purposes of *Technical Report 9 – Noise and Vibration Impact Assessment* of the EIS, properties that had a dwelling were assessed as residential receivers. Residential receivers have a lower noise management level when compared to commercial or industrial receivers. As required by the ICNG and NPfl, noise impacts for residential receivers are assessed at the reasonably most affected point on or within the residential property boundary or, if that is more than 30 metres from the dwelling, at the reasonably most affected point within 30 metres of the dwelling. As such, consideration of noise impacts for the entire property is not required.

Potential operational noise impacts from the proposed transmission lines were summarised in Section 15.5.1 of the EIS and detailed in Section 7.2 of *Technical Report 9 – Noise and Vibration Impact Assessment* of the EIS. The approach to assessing potential operational noise impacts considered three weather scenarios that included a light rain or mist scenario and a heavy rain scenario. The results presented in Section 15.5.1 of the EIS and Section 7.2 of *Technical Report 9 – Noise and Vibration Impact Assessment* of the EIS are the maximum distance from the transmission line where night-time impacts are expected. However, Attachment E of *Technical Report 9 – Noise and Vibration Impact Assessment* of the EIS provides results for various distances from the transmission line.

In addition, potential noise impacts from the proposed Gugaa 500 kV substation were summarised in Section 15.5.2 of the EIS and detailed in Section 7.1 of *Technical Report 9 – Noise and Vibration Impact Assessment* of the EIS.

The operational noise assessment has been updated based on the amended project, including changes at the proposed Gugaa 500 kV substation and changes to the transmission line corridor. The results of the updated operational noise assessment are detailed in Sections 8.1 and 8.2 and Attachment E of *Technical Report 9 – Noise and Vibration Impact Assessment Addendum* of the Amendment Report.

Submitter ID numbers

S-63148207, S-63274723

Summary of issues raised

Submitters raised concerns about the presentation and discussion of impacts in the noise and vibration assessment for the project. Specific comments included:

- concerns about the presentation of operational noise impact maps and that Attachment G.3 and Attachment I of the noise and vibration assessment have been cropped to omit the impact on sensitive receivers H20, H21 and H23
- descriptions of the 'scattered rural residences' north of Yass are misleading and attempt to downplay noise impacts from the project, eg many closely grouped dwellings near Wargeila Road, Fairy Hole Road and Zouch Road will be impacted by operational noise.

Response

Potentially impacted receivers are reflected as the coloured circles in the noise impact mapping. Attachment G.3 or Attachment I of *Technical Report 9 – Noise and Vibration Impact Assessment* of the EIS both reflect the receivers impacted. Mapping associated with sensitive receivers H20, H21 and H23 are not shown because there is no exceedance of the criteria for worst-case daytime transmission line construction noise (Attachment G.3 of *Technical Report 9 – Noise and Vibration Impact Assessment* of the EIS) or operational noise (Attachment I of *Technical Report 9 – Noise and Vibration Impact Assessment* of the EIS).

Of the sensitive receivers near Wargeila Road, Fairy Hole Road and Zouch Road, three sensitive receivers were identified as exceeding the criteria for worst-case night-time transmission line operational noise impacts and may be considered for noise mitigation in accordance with revised mitigation measure NV9 (refer to Appendix B (Updated mitigation measures)). As such, potential impacts to groups of sensitive receivers within the areas referenced are not omitted from the assessment. The use of the term 'scattered rural residences' is used as a relative term comparatively to that of 'dense urban areas'.

7.4.8.2. Existing environment

Submitter ID numbers

S-63266958, S-63274723

Summary of issues raised

Submitters raised concerns that several dwellings have not been assessed, including:

- 561 Wargeila Road, Yass, including consideration of a family cemetery/grave site in the vibration assessment
- 6 Zouch Road, Yass
- 2374 Middle Arm Road, Middle Arm.

Response

Transgrid acknowledges the concerns raised by landowners. *Technical Report 9 – Noise and Vibration Impact Assessment* of the EIS identified and classified all potential noise and vibration sensitive receivers within the nominated study area (a two kilometre buffer around the project footprint). Receivers at

addresses 561 Wargeila Road, 6 Zouch Road and 2374 Middle Arm Road are within the nominated study area and therefore were all considered as part of the noise and vibration impact assessment.

Property address 561 Wargeila Road is identified as Receiver O43 in the noise and vibration assessment, and the potential noise and vibration impacts of the project on the family cemetery/grave site is also considered. As noted by the submitter, the family cemetery/grave site is within proximity to the house at 561 Wargeila Road, which is approximately 270 metres from the project footprint. As such, the property, including the family cemetery/grave site would be outside the minimum 50 metre working distance requirement for a large vibratory roller as per *DIN 4150: Part 3-2016 Structural vibration – Effects of vibration on structures* (DIN, 2016). As such vibration intensive work is not considered to exceed the cosmetic damage criteria.

Technical Report 9 – Noise and Vibration Impact Assessment of the EIS includes property addresses 6 Zouch Road and 2374 Middle Arm Road as they are identified as receivers O45 and T33 respectively. Attachment G.3 of *Technical Report 9 – Noise and Vibration Impact Assessment Addendum* of the Amendment Report indicates that as a result of the amended project, both O45 and T33 would experience moderately intrusive noise impacts during construction. Mitigation measures NV4, NV5 and NV7, and revised mitigation measures NV1 and NV2 will apply to these properties. Refer to Section 7.4.8.4 for a description on operational impacts near these properties.

7.4.8.3. Construction impacts

Submitter ID numbers

S-63252977, S-63125730, S-63249981, S-63183709

Summary of issues raised

Submitters raised concerns about the project's construction noise impacts including in relation to:

- the impact of noise from construction traffic using access tracks and Batlow Road
- the ability for construction to be undertaken 24/7 and the associated noise impact
- blasting and vibration impacts during construction, which will impact water supply infrastructure.

Response

Construction road traffic noise has been considered on all identified routes proposed to be used for construction. The assessment conservatively assumes that construction workers would mobilise in the 6am to 7am period. As such, a portion of light vehicles is assessed with the more stringent night-time criteria for this period. Heavy vehicle use has only been assessed with the daytime criteria. The likely influence of construction road traffic noise is assessed in accordance with the *Road Noise Policy* (RNP) criteria.

Construction traffic is likely to result in a noticeable increase in noise levels on all local roads and around 25 per cent of the arterial and sub-arterial roads (including Batlow Road) due to low existing traffic volumes on the routes. Refer to Section 6.4 and Attachment D of *Technical Report 9 – Noise and Vibration Impact Assessment Addendum* of the Amendment Report for further details of the traffic noise assessment. With the implementation of mitigation measure NV7, the construction road traffic noise would be minimised (refer to Appendix B (Updated mitigation measures)).

Construction working hours are described in Chapter 4 of EIS and Appendix A of Amendment Report. Construction would generally occur during standard day-time hours between 7am and 6pm Monday to Friday and 8am to 1pm on Saturday as per the ICNG. However, some work may occur outside of the

standard hours, such as transmission line construction at crossings of a main road or railway, or deliveries of equipment and materials, as noted in Section 4.6.3 of the EIS. Aside from emergencies, construction work would be carried out in accordance with an out-of-hours work protocol and would not take place outside standard construction hours without prior notification to stakeholders in accordance with the protocol, and as documented in the CEMP. However, the implementation of mitigation measures NV4-NV7 and revised mitigation measures NV1-NV3 would manage noise and vibration impacts during construction. The application of revised mitigation measure NV2 and the NVMP (including the out-of-hours work protocol), in particular would effectively manage predicted noise and vibration impacts for identified residential receivers (refer to Appendix B (Updated mitigation measures)).

Since public exhibition of the EIS, preliminary geotechnical investigations and further consideration of terrain along the amended project alignment have identified several potential areas where controlled blasting may be required along the transmission line corridor. The potential areas have been assessed in *Technical Report 9 – Noise and Vibration Impact Assessment Addendum* of the Addendum Report. Indicative ranges of Maximum Instantaneous Charge (MIC) have been determined to meet recommended ground vibration and overpressure limits at the closest sensitive receiver to each potential location. Mitigation measure NV7 and revised mitigation measure NV3 would manage controlled blasting and vibration impacts during construction to ensure the overall impacts to water supply infrastructure are minimised. Revised mitigation measure NV3 would include preparation of Blast Management Plan to minimise the potential for impacts. The Blast Management Plan would be based on the methodologies and requirements set out in *AS 2187.2-2006 Explosives – Storage and use, Part 2: Use of explosives* and *Technical Basis for Guidelines to Minimise Annoyance Due to Blasting Overpressure and Ground Vibration* (ANZECC, 1990). Aligned with this, geotechnical investigations and further blast overpressure and vibration assessment would be undertaken when specific locations are known.

7.4.8.4. Operational impacts

Submitter ID numbers

S-63544467, S-63104960, S-63252977, S-63252725, S-63190238, S-62406709, S-62510706, S-63543964, S-63267461, S-63269210, S-62910496, S-62494957, S-62774492, S-63266956, S-63146971, S-63250210, S-63250997, S-63269216, S-63236479, S-63105473, S-63229475, S-63190218, S-63249498, S-63249981, S-63249225, S-63190240, S-62674956, S-63252730, S-63148207

Summary of issues raised

Submitters raised concerns that the operation of the project will result in night-time noise criteria exceedance at 65 dwellings and believe this to be an unacceptable significant impact on the community. One submitter was particularly concerned about the operational noise impact from the proposed Gugaa 500 kV substation.

Response

Transgrid acknowledges the concerns raised by the community members in relation to operational noise. Attachment E of *Technical Report 9 – Noise and Vibration Impact Assessment* of the EIS assessed audible noise from the operation of the transmission lines based on the EIS project footprint. The assessment has considered the effect of weather conditions on audible noise emission and exceedances were predicted at 65 dwellings based on worst-case scenario noise impacts only in light rain or mist conditions. The assessment conservatively assumed the transmission line may be anywhere within the EIS project footprint, with consideration of a minimum 70-metre easement.

The potential for operational noise impacts from transmission lines has also been assessed for the amended project using a similar approach to the EIS and is included in Attachment E of *Technical Report 9 – Noise and Vibration Impact Assessment Addendum* of the Amendment Report. The assessment has identified up to a total of 78 residential receivers to potentially have operational transmission line noise impacts during light rain conditions, which is expected to be the infrequently occurring worst-case scenario. The increased predicted exceedances compared to the EIS project are primarily due to the transmission line between the existing Wagga 330 kV substation and the proposed Gugaa 500 kV substation assessed as operating at 500 kV for the amended project. The number of predicted exceedances from other sections of the amended project is generally consistent with the assessment of the EIS project.

However, the assessment of the operational noise impacts from transmission lines is based on the amended project footprint, considering a 70-metre-wide minimum easement and not the final transmission line route and easement and conductor arrangement. The assessment also does not account for local topography and other factors which affect sound propagation over longer distances (ie around 200 metres). As such, the predicted exceedances are conservative and are expected to reduce once consideration of the final transmission line route and easement and conductor arrangement is undertaken.

Revised mitigation measure NV9 will manage the potential for operational noise impacts from transmission lines. Where an impact is identified based on the final transmission design and conductor arrangement, monitoring will be undertaken to confirm actual noise levels. Solutions will be identified in consultation with landowners where exceedances are confirmed (refer to Appendix B (Updated mitigation measures)).

The operational noise assessment of the proposed Gugaa 500 kV substation for the amended project is conservatively based on the predicted worst-case levels. This assessment includes operating conditions such as noise enhancing weather (such as wet weather) for the night-time period and that all equipment operates in a steady state nature on a 24/7 basis. As such, the actual impacts during operation are expected to be less.

Without transformer barriers, noise emissions from the proposed Gugaa 500 kV substation are predicted to potentially exceed the Project Noise Trigger Levels (PNTLs) at the three closest residential receivers (refer to Table 8-2 of *Technical Report 9 – Noise and Vibration Impact Assessment Addendum* of the Amendment Report). Without transformer barriers, noise emissions are predicted to exceed the trigger levels by up to 7 dB at the most affected residential receiver during the night-time under noise enhancing weather conditions, and 2 dB without noise enhancing weather. This is generally consistent with *Technical Report 9 – Noise and Vibration Impact Assessment* prepared for the EIS. With transformer barriers, the noise emissions are predicted to comply with the PNTLs during standard weather for all receivers. However, during noise enhancing weather, exceedances of up to 1 to 4 dB are predicted at the three closest residential receivers during the night-time period.

The proposed Gugaa 500 kV substation will be designed to comply with the Npfl criteria in accordance with mitigation measure NV8 as detailed in Appendix B (Updated mitigation measures). This includes consideration of positioning of transformer barriers, selection of equipment with consideration of equipment of sound power levels and acoustic modelling of noise levels at surrounding receivers from all noise-generating substation equipment.

7.4.8.5. Management of impacts

Submitter ID numbers

S-62674956, S-63190238, S-63252977, S-63252725, S-63287206, S-63249981, S-63800206, S-63250210, S-63146971, S-63250997, S-63226712, S-63125730

Summary of issues raised

Submitters raised concerns about the proposed operational noise mitigation measures for the project, including concerns that:

- mitigation measures will not be effective
- landowners will be responsible for mitigation measures
- the proposed mitigation measures are only for dwellings and would not reduce noise levels for the remainder of the property
- at-property treatment will not be possible for Hillas Farm Homestead to minimise noise impacts due to its heritage listing.

Clarification was also requested on how directly impacted residents, neighbouring properties and the community will be compensated for noise impacts.

Response

Operational noise impacts associated with the proposed Gugaa 500 kV substation and the transmission line will be managed by implementing mitigation measure NV8 and revised mitigation measure NV9 (refer to Appendix B (Updated mitigation measures)), respectively. As discussed in Section 7.4.8.4, the proposed Gugaa 500 kV substation will be designed to comply with the Npfl criteria. Where there is the potential for operational noise exceedances based on the final transmission line route and conductor arrangement, monitoring will be undertaken to confirm actual noise levels, and solutions will be identified in consultation with landowners where exceedances are confirmed (refer to Appendix B (Updated mitigation measures)). Transgrid and the construction contractors are responsible for operational noise mitigation, not the impacted property owners.

As noted in Section 7.4.8.1, for the purposes of *Technical Report 9 – Noise and Vibration Impact Assessment of the EIS*, properties with a dwelling were assessed as residential receivers. In accordance with the Npfl, operational noise impacts for residential receivers are assessed at the reasonably most affected point on or within the residential property boundary or, if that is more than 30 metres from the dwelling, at the reasonably most affected point within 30 metres of the dwelling. Accordingly, mitigation is typically applied to the dwelling when residential receivers are considered for operational noise treatment. However, Section 3.4.3 of the Npfl provides other options, such as courtyard walls or landscaping that could be applied where acceptable. As noted above, consultation with landowners will be undertaken to determine appropriate solutions where operational noise exceedances from transmission lines are identified (refer to revised mitigation measure NV9 in Appendix B (Updated mitigation measures)).

Hillas Farm Homestead and Outbuildings as assessed in *Technical Report 9 – Noise and Vibration Impact Assessment Addendum* of the Amendment Report is located more than 375 metres from the transmission line corridor and as such no noise impacts are predicted during operation of the project. As such at-property noise mitigation is not considered to be required for this property.

Compensation is only applicable for the acquisition of the easement over a property and is determined in accordance with the *Land Acquisition (Just Terms Compensation Act) 1997*. Section 7.4.4.6 provides

further detail on how compensation is assessed for easement affected landowners. Potential noise impacts from the project would be managed in accordance with the noise mitigation measures detailed in Appendix B (Updated mitigation measures).

7.4.9. Soils, geology and contamination

7.4.9.1. Methodology

Submitter ID numbers

S-63250000

Summary of issues raised

A submitter raised concerns that not enough consideration has been given to the erosion risk from the project due to the high rainfall experienced in the region and topography where the project is located.

Response

The submitter's concern is acknowledged. Consideration of erosion risk for the project was provided in Chapter 16 (Soils, geology and contamination) and Chapter 17 (Surface water and groundwater quality) of the EIS. A more detailed assessment was provided in *Technical Report 12 – Surface Water and Groundwater Impact Assessment* of the EIS and *Technical Report 12 – Surface Water and Groundwater Impact Assessment Addendum* of the Amendment Report. The potential for erosion impacts included consideration of factors including topography, soil types, climate and rainfall and application of a risk-based assessment approach as detailed in Section 4.4.1 of *Technical Report 12 – Surface Water and Groundwater Impact Assessment* of the EIS. The methodology for *Technical Report 12 – Surface Water and Groundwater Impact Assessment Addendum* is consistent with the approach taken for the EIS.

A Soil and Water Management Plan (SWMP) will be prepared as part of the CEMP and will provide mitigation measures to minimise impacts on soils and surface water (refer to Appendix B.1 (Updated biodiversity mitigation measures)). The SWMP will include site-specific or activity-specific Erosion and Sediment Control Plans (ESCPs) depending on the erosion risk. The SWMP and ESCPs will be prepared in accordance with *Managing Urban Stormwater: Soils and Construction – Volume 1, 4th Edition* (Landcom, 2004) and other comparable guidelines. Erosion risk would further be informed through further geotechnical analysis and ground truthing of local conditions.

7.4.9.2. Potential impacts

Submitter ID numbers

S-62663503, S-63246464, S-63250000, S-63065456, S-63253974, S-63190238, S-63125730, S-62976708, S-63250997, S-63146987

Summary of issues raised

Submitters raised concerns about potential soils and geology and contamination impacts of the project, including that:

- construction of the project will result in erosion and sedimentation impacts due to the steep terrain the project traverses, and erosion risk will continue during operation
- the project will result in soil compaction

- landslip risks will be increased because of access track constructed in steep terrain
- the project will affect Kyeamba Valley Landcare Group from addressing salinity within the Kyeamba Valley.

Response

Construction activities such as excavation, vegetation clearing and vehicle movement on unsealed surfaces would cause soil disturbance and potential for soil erosion and sediment transport. Parts of the project footprint that comprise steep terrain and/or are underlain by sodic and/or sand-based soils, including sodosols, kurosols and rudosols are particularly susceptible to erosion, as detailed in Section 16.4 of the EIS. Mitigation measures will be implemented to minimise the impact from soil erosion and sediment transport (refer to Appendix B (Updated mitigation measures) and Appendix B.1 (Updated biodiversity mitigation measures)). It is noted that compaction may occur during construction. However, demobilisation and site restoration and/or rehabilitation (as applicable) would be undertaken progressively throughout the amended project footprint. Disturbed areas no longer required for operation would be restored to their previous conditions as far as practicable in accordance with *Managing Urban Stormwater: Soils and Construction – Volume 1, 4th Edition* (Landcom, 2004) or other comparable guidelines. Similarly, construction areas that do not include permanent infrastructure and are outside of an Asset Protection Zone (APZ) would be rehabilitated or restored as soon as practicable, consistent with the existing surrounding landscape and any operational maintenance requirements. Where required, restoration and/or rehabilitation (as applicable) would be carried out in consultation with the relevant landowner/s.

Concerns regarding landslips risks from constructing access tracks in steep terrain are acknowledged. Since the public exhibition of the EIS, additional access tracks have been nominated to include the full extent of access tracks between the transmission line corridor and the existing road network as described within Chapter 3 (Description of the amended project) of the Amendment Report. Additional assessment of potential impacts associated with the nominated access tracks is provided in Chapter 6 (Assessment of impacts) of the Amendment Report and the associated revised or addendum technical reports. Where upgraded and new access tracks are required in steep terrain, sufficient space has been allowed to construct appropriate batters and drainage work to manage potential risks associated with erosion and landslips.

Areas of soil salinity hazard ranging from very low to very high are present across the project footprint. During operation, changes to the soil profile, increased hardstand areas and vegetation removal within the transmission line easement could impact long-term salinity compared to pre-development conditions. However, the impact would reach an equilibrium over time based on the final landform and therefore any impacts associated with salinity would be minor. Salinity is addressed in Section 5.3 and Section 5.9 of Chapter 16 (Soils, geology and contamination) of the EIS and mitigation measure SC1 addresses management of mapped moderate to high-risk saline soils and known or suspected saline soils.

Submitter ID numbers

S-63271464, S-63125730, S-63274965

Summary of issues raised

Submitters raised concerns that construction and maintenance of the transmission lines will result in land contamination.

Response

The potential for contamination associated with the construction and operation of the project is described in Chapter 16 (Soils, geology and contamination) of the EIS and assessed in detail in Sections 6.3 and 7.2 of *Technical Report 10 – Phase 1 Contamination Assessment* of the EIS. The assessment identified some areas within the project footprint as having a moderate risk of contamination. *Technical Report 10 – Phase 1 Contamination Assessment Addendum* of the Amendment Report identified similar contamination risks for the amended project.

During construction, disturbance of such soils has the potential to expose contaminants in the absence of appropriate controls. These potential impacts would be managed through standard mitigation measures including additional investigations within areas identified as moderate or higher contamination risk (refer to mitigation measure SC2 of Appendix B (Updated mitigation measures)).

Where unexpected contamination is encountered during ground-disturbing activities, this would be managed in accordance with an Unexpected Contaminants Finds Protocol (refer to mitigation measure SC7 of Appendix B (Updated mitigation measures)). The risk of potentially encountering contaminated soil and the risk of contamination being introduced or spread from construction of the amended project would be minimised through the implementation of mitigation measures SC1 and SC2 for areas identified as moderate to high contamination risk (refer to Appendix B (Updated mitigation measures)).

Without mitigation measures to prevent contamination during construction, construction activities also have the potential to introduce contamination to the environment through accidental spills and leaks. The risk of contamination being introduced or spread from construction of the project would be minimised through the implementation of mitigation measure SC4 refer to Appendix B (Updated mitigation measures)).

During operation, there would be minimal soil disturbance from general maintenance activities. As such, the operation of the project is unlikely to result in exposure of contaminated soil. Localised contamination from storage and use of chemicals, accidental leaks and spills would be managed in accordance with Transgrid's existing environmental policies.

7.4.9.3. Management of impacts

Submitter ID numbers

S-63273461, S-63190238, S-63274723, S-62910496, S-63249498

Summary of issues raised

Submitters raised concerns about how potential soils, geology and contamination impacts of the project would be managed, including that:

- soil erosion and sedimentation mitigation strategies will not work on steep terrain
- there are no mitigation measures to control erosion proposed for the Gugaa 500 kV substation
- the re-use of topsoil will not be possible as it is proposed for transmission line structures and access road construction.

Response

As noted in Section 7.4.9.1, a SWMP will be prepared as part of the CEMP and will provide mitigation measures to minimise impacts on soils and surface water during construction. The SWMP will include site-

specific or activity-specific ESCPs depending on the erosion risk. Mitigation measure SW1 (refer to Appendix B (Updated mitigation measures)) provides further requirements for the preparation of ESCPs, including:

- consultation with a Certified Professional in Erosion and Sediment Control on the development and implementation of ESCPs for activities and areas that are considered higher risk (eg in areas of steep terrain with a higher erosion potential)
- use of several best practice guidelines, such as *Managing Urban Stormwater: Soils and Construction – Volume 1, 4th Edition* (Landcom, 2004) and *Best Practice Erosion and Sediment Control* (IESCA, 2008).

Construction of the proposed Gugaa 500 kV substation will be managed through the implementation of the SWMP and mitigation measure SW1 (refer to Appendix B (Updated mitigation measures)). As the proposed Gugaa 500 kV substation is situated as part of the ‘Becks Land’ landscape, which is associated with a high erosion hazard, it is a site-specific ESCP will be implemented similar to that described above for steep terrain.

The concerns around the ability to reuse topsoil are acknowledged. Section 4.5 of Chapter 4 (Project description - construction) of the EIS notes that suitable topsoil would be separated and stockpiled within or adjacent to the work site and reused for revegetation and restoration and/or rehabilitation where required. Topsoil would be managed throughout construction in accordance with *Managing Urban Stormwater: Soils and Construction – Volume 1, 4th Edition* (Landcom, 2004) or other comparable guidelines. The use of this guideline or other comparable guidelines would ensure appropriate and industry best practice topsoil handling procedures are implemented for the project.

7.4.10. Surface water and groundwater

7.4.10.1. Methodology

Submitter ID numbers

S-62494957

Summary of issues raised

A submitter raised a concern that the surface water and groundwater assessment has contradictory statements about impacts to water flow at the proposed Gugaa 500 kV substation.

Response

Chapter 17 (Surface water and groundwater) and *Technical Report 12 – Surface Water and Groundwater Impact Assessment* of the EIS were reviewed for contradictory statements, and it is unclear what the contradictory claim is. Notwithstanding, an updated assessment was undertaken to reflect the amendments and refinements proposed for the project and is presented in *Technical Report 12 – Surface Water and Groundwater Impact Assessment Addendum* of the Amendment Report. The amended project involves changes to the layout of the proposed Gugaa 500 kV substation. The split bench arrangement proposed in the amended project may alter overland flows at this location, however, these changes are considered minor and there would be no change to the nature of the impacts assessed in *Technical Report 12 – Surface Water and Groundwater Impact Assessment* prepared for the EIS.

7.4.10.2. Existing environment

Submitter ID numbers

S-62910496, S-63196979

Summary of issues raised

Submitters raised concerns about characterisation of the existing environment, including that:

- the EIS failed to identify the proposed Gugaa 500 kV substation's proximity to Big Springs Creek, resulting in a low sensitivity rating
- the EIS incorrectly described the water at Derringullen Creek as turbid.

Response

The proposed Gugaa 500 kV substation is located more than 690 metres from Big Springs Creek and as such, is outside the waterway buffer zone of 200 metres which is applied to water quality sensitivity ratings. These ratings apply to streams of Strahler order 4 or higher, such as Big Springs Creek. The proposed Gugaa 500 kV substation is within 40 metres of unnamed Strahler order 1 and 2 waterways. Further information on the assessment approach and determining a potential impact significance is provided in Section 4.4.1 of *Technical Report 12 – Surface Water and Groundwater Impact Assessment* and summarised in Section 17.2.2.2 of the EIS. During and after rainfall, runoff flows towards O'Briens Creek and Gregadoo Creek to the east of the site and not towards Big Spring Creek.

The *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand, 2000) show the relevant turbidity guideline values are 6 to 50 Nephelometric Turbidity Unit (NTU). The turbidity measure obtained at Derringullen Creek during the surface water investigation on 5 April 2022 was 612 NTU, as shown in Attachment C of *Technical Report 12 – Surface Water and Groundwater Impact Assessment* of the EIS. The purpose of this field survey was to verify information obtained from publicly available datasets and mapping. Section 17.3.2.1 of the EIS shows that turbidity within the Murrumbidgee River catchment, within which Derringullen Creek is located, exceeded guidelines in historical reports. The field survey result corresponds with the Murrumbidgee River catchment results in the *State of the Catchments 2010: Murrumbidgee Region* (DECCW, 2010c) report or the *National Water Quality Assessment* (SKM, 2011).

Submitter ID numbers

S-63190238

Summary of issues raised

A submitter raised concern that the Surface Water and Groundwater Impact Assessment does not consider the substantial erosion impacts from the 2019/20 bushfires.

Response

Technical Report 12 – Surface Water and Groundwater Impact Assessment of the EIS assessed the existing environment, including site investigations in April and August 2022. The waterways deemed to be representative of a range of waterways traversed by or in proximity to the project footprint have captured the erosion impacts remaining from the 2019/20 bushfires. This included inspecting the geomorphology, bank/soil condition and evidence of previous or current erosion.

7.4.10.3. Construction impacts

Submitter ID numbers

S-63222221, S-62663503, S-62910496, S-63125730, S-63190238, S-62904959, S-63125734, S-63194462, S-63274965

Summary of issues raised

Submitters raised concerns about impacts on waterways and water quality from construction activities. Specific comments included:

- traffic and road construction for the project will impact waterways and water quality
- potential water quality impacts from soil disturbance will be an ongoing risk during construction
- concerns and/or objection to the project due to potential erosion and contamination from construction impacting local creeks and rivers
- contaminated runoff or spills from construction could impact the water quality of local waterways, including tributaries of the Murrumbidgee River
- construction of the project will impact waterways which have been funded and supported by Rivers of Carbon-ARRC, Landcare and Greening Australia.

Response

Potential impacts on waterways and water quality were assessed in *Technical Report 12 – Surface Water and Groundwater Impact Assessment* of the EIS and summarised in Chapter 17 (Surface water and groundwater) of the EIS.

Without the implementation of mitigation measures, surface water quality impacts during construction could occur from disturbance and mobilisation of soil (including soil with elevated levels of contaminants, nutrients and salinity) or other pollutants from vegetation clearing, excavation, traffic movement on unsealed surfaces and/or material storage. Accidental chemical and fuel spills may also occur when using and maintaining equipment and machinery.

The potential impact on waterways and water quality is dependent on the level of ground disturbance, soil erosion risk, proximity of work to the waterway and the type of waterway. Activities such as vegetation clearing and earthworks within 50 to 200 metres of a waterway have the greatest potential to result in high impacts to water quality.

A SWMP will be prepared and implemented as part of the CEMP. The plan would include measures, processes and responsibilities to minimise the potential for soil and water impacts during construction including the preparation of ESCPs for higher risk areas and emergency spill procedures. The SWMP and ESCPs would be developed in accordance with relevant guidelines and requirements including *Managing Urban Stormwater – Soils and Construction*, Volume 1 (Landcom, 2004) and Volumes 2A (DECC, 2008a) and Volume 2C (DECC, 2008b), commonly referred to as the 'Blue Book', *Best Practice Erosion and Sediment Control* (IECA, 2008) and relevant DPE *Guidelines for controlled activities on waterfront land*.

Furthermore, a number of waterway crossings are proposed as part of the amended project. In accordance with revised mitigation measure SW2, appropriate scour protection would be included for any works within a waterway. All works undertaken within or near waterways would consider *Controlled activities - Guidelines for riparian corridors on waterfront land* (DPE, 2022b), *Controlled activities - Guidelines for watercourse crossings on waterfront land* (DPE, 2022c), *Why Do Fish Need to Cross the Road? Fish*

Passage Requirements for Waterway Crossings (DPI, 2003) and *Policy and Guidelines for Fish Habitat Conservation and Management* (DPI, 2013). A Water Quality Monitoring Program would also be implemented for waterways assessed to be of high sensitivity as per revised mitigation measure SW3 (refer to Appendix B (Updated mitigation measures)).

With the implementation of the mitigation measures described above water quality impacts from construction activities are anticipated to be minor, short-term and limited in extent at sensitive receiving environments

Preparation of the SWMP, ESCPs and Water Quality Monitoring Programs are considered to be effective in detailing the processes, responsibilities and measures that would manage potential soil and water quality impacts. These management plans and programs would be developed in accordance with the relevant principles and requirements.

The SWMP would also contain appropriate measures to manage spills to reduce and address soil and water contamination alongside the implementation of mitigation measure SC4 and procedures developed for chemical spill and runoff.

Submitter ID numbers

S-63236736, S-62910496, S-63253974

Summary of issues raised

Submitters raised concerns about water supply depletion, including:

- the volume of water potentially being used is a concern
- further groundwater studies are needed to determine future water availability after groundwater is extracted
- access tracks for the project will impact groundwater supply and recharge.

Response

The concerns about water supply depletion are acknowledged. Based on further construction planning and design development (including the amendments and refinements discussed in Chapter 4 (Actions taken since public exhibition)), the indicative water requirements for construction of the amended project have been updated. It is now estimated that about 715 ML of water would be required to construct the amended project. This amounts to 286 ML of potable and 429 ML of non-potable water, which is greater than the amount presented in the EIS. This increase in water supply is due to the revised estimates for the combined worked accommodation facilities and construction compounds and concrete production. The final water take would be confirmed during further detailed design and construction planning.

As discussed in Section 5.6.1 in response to NSW DCCEE Water's submission on the EIS, further analysis of water sources has been carried out for the amended project and is detailed in *Technical Report 12 – Surface Water and Groundwater Impact Assessment Addendum* of the Amendment Report. The water source analysis complements the analysis carried out for water sources in *Technical Report 12 – Surface Water and Groundwater Impact Assessment* of the EIS.

A combination of water sources would likely be required to meet the total non-potable water demand for the amended project. The first preference for non-potable water supply is from construction sedimentation basins, farm dams and/or rainwater tanks in agreement with the relevant landowners or from within the

amended project footprint. However, these water sources are unlikely to meet the non-potable water demands in all locations across the amended project footprint and would be sporadic and potentially unreliable. As such, other non-potable water sources include the purchase of water allocations from existing licensed groundwater bores or the use of surface water allocations from nearby waterway(s) with licensable take.

The use of groundwater from existing licensed bores is expected to have a negligible impact on the groundwater supply. The extraction volumes from the licensed bores would have already been evaluated and deemed to be acceptable against the *Aquifer Interference Policy* during the licensing process. Therefore, further groundwater studies are not considered necessary.

Similarly, any impacts on surface water supply are expected to be negligible as extraction volumes would be required to be within the licensable take of the waterway.

Potable water requirements for the amended project are likely to be met through:

- direct connection to council water reticulation system
- transported from nearby town/s via water cart/tanker
- purchased from third-party commercial supplier(s)
- on-site water treatment systems in conjunction with non-potable sources.

Procurement processes and further consultation would consider the capability of the above sources to meet the amended project's potable water demand.

Revised mitigation measure SW4, as detailed in Appendix B (Updated mitigation measures), requires water supply management to be undertaken in accordance with agreements between the construction contractors and relevant landowners, water users and suppliers, which would further minimise potential for water supply depletion.

Operational water requirements for the proposed Gugaa 500 kV substation, modified Wagga 330 kV substation and modified Bannaby 500 kV substation are very low and would have a negligible impact on water supply.

Sections 17.4.3 and 17.5.3 of the EIS and Chapter 6 (Assessment of impacts) of the Amendment Report acknowledge that localised changes to groundwater flow paths, recharge and levels may occur during construction and operation. However, any impacts from establishment of new/upgraded access tracks on groundwater supply and recharge would be minor and localised given the relatively small scale of the access tracks compared to the surrounding environment.

7.4.10.4. Operational impacts

Submitter ID numbers

S-62494957

Summary of issues raised

A submitter raised concern about impacts on groundwater levels and groundwater quality at the proposed Gugaa 500 kV substation.

Response

Technical Report 12 – Surface Water and Groundwater Impact Assessment prepared for the EIS concluded that localised changes to groundwater levels and groundwater quality may occur during construction. Without the implementation of mitigation measures, moderate impacts to groundwater levels and groundwater quality may occur where dewatering of excavated areas is required (such as during construction of the proposed Gugaa 500 kV substation) or there are changes to infiltration/groundwater recharge from soil compaction and removal of vegetation. A range of measures would be specified in the SWMP prepared as part of the CEMP to minimise impacts on groundwater during construction where practicable. The assessment also concluded that the concrete bench established for the proposed Gugaa 500 kV substation is unlikely to restrict water levels or flow directions or change groundwater water quality in the long-term. As such, any impacts on groundwater would be localised and considered negligible to low in significance.

Technical Report 12 – Surface Water and Groundwater Impact Assessment Addendum prepared for the Amendment Report concluded that none of the amendments or refinements (including the modified split bench arrangement at the proposed Gugaa 500 kV substation) have the potential to change the impact to groundwater during operation in relation to the proposed Gugaa 500 kV substation.

Potential groundwater quality impacts from spills during operation would be minimised through the oil containment system for the proposed Gugaa 500 kV substation. The oil containment system would include consideration of appropriate bunding, dedicated drainage points and spill oil containment tanks to manage any potential spills or leaks from the new transformers and reactors, as required.

7.4.10.5. Management of impacts

Submitter ID numbers

S-63274723, S-63065456, S-62910496

Summary of issues raised

Submitters raised concerns about the adequacy of mitigation measures. Specific comments included:

- lack of mitigation measures to manage water quality impacts around the proposed Gugaa 500 kV substation
- the need for focused management to minimise water quality impacts in the Bannaby section of the project as it is within the Warragamba Dam catchment
- the EIS has not addressed control measures to be implemented to mitigate impacts on Fairy Hole Creek in accordance with DPI's *Guidelines for Controlled Activities on Waterfront Land*.

Response

During construction, potential impacts to water quality around the proposed Gugaa 500 kV substation will be managed in accordance with the SWMP that would be prepared as part of the CEMP (refer to Appendix B.1 (Updated biodiversity mitigation measures)) and associated ESCPs in accordance with mitigation measure SW1 (refer to Appendix B (Updated mitigation measures)). The SWMP would identify foreseeable risks and mitigation measures related to soil erosion, water pollution and any potential dewatering during construction. The SWMP and ESCPs will be prepared in accordance with *Managing Urban Stormwater – Soils and Construction, Volume 1* (Landcom, 2004) as well as other relevant

guidelines. In addition, a water quality monitoring program will be implemented for waterways of high sensitivity.

Potential impacts on water quality from the operation of the proposed Gugga 500 kV substation would be managed through suitable drainage infrastructure, which would capture and discharge stormwater collected from within the substation site. Catch or table drains (such as swale drains) would also be installed around the benches to divert runoff from the site. The runoff would be diverted to natural waterways using appropriate dispersion/dissipation structures. In addition, the proposed Gugga 500 kV substation includes an oil containment system designed per Transgrid's standards and procedures and the *Protection of the Environment Operations Act 1997* (POEO Act) requirements. The oil containment system would include consideration of appropriate bunding, dedicated drainage points and spill oil containment tanks to manage any potential spills or leaks from the new transformers and reactors, as required. Appendix A (Updated project description) of the Amendment Report provides further details on the operational water quality controls for the proposed Gugga 500 kV substation.

The modification of the Bannaby 500 kV substation, which is located in the Sydney Drinking Water Catchment (Warragamba catchment), would also upgrade the existing oil containment system infrastructure. This would include installation of a new primary oil containment tank and extension of the secondary containment dam. The upgrade would be designed in accordance with Transgrid's standards and procedures and the requirements of the POEO Act. Consideration of appropriate bunding, dedicated drainage points and spill oil containment tanks to manage any potential spills or leaks from the new transformers and reactors would also be undertaken as required. Additionally, new drainage is proposed to divert runoff from entering the site. Any runoff from or spills on the bunded bench area would be captured and treated before either discharge off-site (eg uncontaminated runoff) or disposal at an appropriately licenced location (eg water contaminated by a fuel spill) as per existing operations.

Any work within the waterway buffer zones of the Bannaby section of the project would have a moderate or high risk of sedimentation and erosion impacts and would require the preparation of site-specific ESCPs given the sensitivity of the waterways. In steeper and vegetated land within the Sydney Drinking Water Catchment, retaining vegetation in steep areas (where the required clearances to the transmission line can be maintained) would also be implemented to reduce sedimentation and erosion impacts.

Fairy Hole Creek is identified in Table B3 of *Technical Report 12 – Surface Water and Groundwater Impact Assessment* of the EIS, and any potential impacts to the creek would be managed under the SWMP and overarching CEMP for the project. Mitigation measure SW1 as detailed in Appendix B (Updated mitigation measures) would manage the particular concerns around works identified to occur on waterfront land areas in accordance with *Controlled activities - Guidelines for riparian corridors on waterfront land* (DPE, 2022b) and *Controlled activities - Guidelines for watercourse crossings on waterfront land* (DPE, 2022c).

Section 17.1.1 outlines how the EIS considered the *DPI Guidelines for Controlled Activities on Waterfront Land* (DPI, 2018) in accordance with the SEARs). The updated DPE *Guidelines for controlled activities on waterfront land* will be followed during further detailed design and construction of the amended project with regard to waterway crossings, access tracks and drainage design. DPE's *Guidelines for controlled activities on waterfront land* have also been considered in assessing the amended project as part of *Technical Report 12 – Surface Water and Groundwater Impact Assessment Addendum* of the Amendment Report.

7.4.11. Hydrology and flooding

7.4.11.1. Potential impacts

Submitter ID numbers

S-62910496, S-62494957

Summary of issues raised

Submitters raised concerns about flooding at or near the proposed Gugaa 500 kV substation in relation to Big Springs Creek, and that Transgrid has not conducted environmental surveys to evaluate the impact.

Response

The flood assessment undertaken by Lyall and Associates for the proposed Gugaa 500 kV substation (as described in the EIS) included review of existing flood studies, hydrological and hydraulic (flood) modelling and the development of a local hydraulic model for the proposed Gugaa 500 kV substation. The assessment is presented in Attachment D of *Technical Report 11 – Hydrology and Flooding Impact Assessment* of the EIS. Big Springs Creek is located over 690 metres to the west of the proposed Gugaa 500 kV substation and is not expected to result in any flooding at the substation.

It is noted that the bench design for the proposed Gugaa 500 kV substation has been updated in the amended project, as described in Appendix A (Updated project description) of the Amendment Report. An updated flood assessment for the proposed Gugaa 500 kV substation has been prepared by Lyall and Associates as Attachment G to *Technical Report 11 – Hydrology and Flooding Impact Assessment Addendum* of the Amendment Report. The assessment notes the substation has been designed above the probable maximum flood (PMF) level and therefore would not be impacted by future climate risk. In addition, all the substation electrical equipment is elevated above ground level further limiting the risk of flooding and the subsequent operation of the substation.

Revised mitigation measure HF5 will maintain existing flood behaviour around and downstream of the proposed Gugaa 500 kV substation through suitably sized cut-off drains and cross draining culverts (refer to Appendix B (Updated mitigation measure)).

These findings were based on a robust hydraulic model that was developed for the project, which incorporated detailed historical and up-to-date flood data for the catchment. Environmental surveys are unlikely to have identified any additional information to the flood data incorporated into the model.

Submitter ID numbers

S-63125730

Summary of issues raised

The submitter raised concern that construction will change flood behaviour, which will impact residents close to creeks and rivers.

Response

Technical Report 11 – Hydrology and Flooding Impact Assessment prepared for the EIS and *Technical Report 11 – Hydrology and Flooding Impact Assessment Addendum* prepared for the Amendment Report acknowledge that prior to mitigation, construction activities have the potential to result in localised and minor impacts on local flood behaviour where they are located within land subject to flooding. This may

occur during excavations for substations, transmission line structure foundations, brake and winch sites, and new/upgraded access tracks as well as stockpiling of material and modification of existing surface levels (eg filling) during establishment and use of some construction ancillary facilities.

However, all construction compounds and substations would be designed to maintain existing drainage and overland flow paths through incorporation of appropriately designed layouts and drainage infrastructure. Smaller scale excavations such as the construction activities required at each transmission line structure would involve excavations up to five metres deep for the installation of foundations, which would be backfilled at completion. Construction activities would last around four weeks and given this short duration the risk of flooding impacts is considered low. Other excavation activities would be relatively minimal and include levelling around the individual structure foundations, drainage and grading. The access tracks which cross or are near waterways have the potential to impact flooding. No flood immunity requirements are currently proposed for the access tracks. Therefore, they can be developed at existing grade and cross watercourses at low depths with suitable cross drainage to minimise their obstruction to flow. This would limit adverse flood impacts on surrounding properties, including risk of impacts on residences close to creeks and rivers. Revised mitigation measures HF3, HF4 and HF5 as detailed in Appendix B (Updated mitigation measures) would manage construction impacts. This is being considered as part of further detailed design and construction planning.

7.4.12. Hazards and risks

7.4.12.1. Aviation impacts

Submitter ID numbers

S-62999456, S-63076708, S-63269212

Summary of issues raised

Submitters raised concerns about potential impacts of the project on aviation. Specific comments included:

- the project will restrict medical aerial operations
- it is unclear in the EIS which aircraft landing areas will be impacted by HumeLink infrastructure.

Response

The transmission lines are not expected to affect emergency services operations within and surrounding the project footprint. Emergency medical helicopter flights can choose a suitable landing area away from obstacles, or if required can use a winch to retrieve patients in areas not suitable for landing. They can operate near such structures after identifying them and considering their impact on the flight operation (refer to Section 19.3.3 of the EIS).

Individual aircraft landing area assessments were undertaken to inform landowner engagement and property negotiations. Due to the private nature of this information, including the locations of the airstrips, it was not published in the EIS.

7.4.12.2. Bushfire impacts

Submitter ID numbers

S-63233458, S-63249463, S-63250509, S-63250997, S-63190238, S-63119956

Summary of issues raised

Submitters raised concerns about the methodology of the bushfire assessment, including its focus and consideration of specific aspects. Specific comments included:

- the bushfire assessment is too high-level and focused on ignition sources rather than specific firefighting methodology
- the assessment does not acknowledge the effect of Lunar Maxima and Minima on weather cycles
- the EIS has not properly assessed bushfire impacts in full, including increased risk to firefighters and landowners, cutting off evacuation routes and fails to mention arcing, impact on reduced emergency response capabilities and exclusion zones
- the EIS examines risks for workers while building the lines but not the operational risks
- a submitter suggested the Dunns Road fire impact was not assessed in their locality and maps are missing.

Response

Transgrid's role in bushfire management is preventative first with a focus on minimising risks through proactive and regular vegetation management as well as reviews and inspections of infrastructure. Therefore, the focus of the bushfire risk assessment for the project was on potential bushfire risks to assets within the project footprint as well as potential ignition sources associated with the project because these are aspects that are directly associated with the project and can be managed by Transgrid. Firefighting operations (including the methodologies used) are generally the responsibility of the NSW RFS and are therefore considered outside the scope of the assessment.

The bushfire risk assessment acknowledges that the bushfire risk profile varies depending on weather cycles and can be influenced by several factors. To the extent that lunar activity affects weather cycles, this is likely to have been captured within the historical regional weather data that has been analysed and summarised in Chapter 5 of *Technical Report 13 – Bushfire Risk Assessment Report* of the EIS.

Section 7.2 of *Technical Report 13 – Bushfire Risk Assessment Report* of the EIS assessed potential impacts on firefighting efforts and access for evacuation during emergencies when the project is operational, including consideration of public safety (landowners and firefighters), arcing, emergency response requirements and exclusion zones.

Any potential risks for workers during operation of the project associated with bushfires would be managed in accordance with Transgrid's existing health and safety policies and procedures.

The data showing the extent of the Dunns Road fire that is referenced in the EIS was sourced from the publicly available *Fire Extent and Severity Mapping* (DPIE, 2020c) developed by NSW RFS and the NSW DCCEEW Remote Sensing & Regulatory Mapping team. Therefore, Transgrid is reliant on NSW RFS and the NSW DCCEEW mapping team for accuracy in data presentation.

Submitter ID numbers

S-62406709, S-63131973, S-63151711, S-63222221, S-63249463, S-62510706, S-63252956, S-63543964, S-63274706, S-63266979, S-62663503, S-63267461, S-63269210, S-63264715, S-63253980, S-62774492, S-63236736, S-63195227, S-63105473, S-63229475, S-63190220, S-62977986, S-63190238, S-63119956, S-62910496, S-63075710, S-63125716, S-63140711, S-63194462, S-62904959, S-63125734, S-63541721, S-63250509, S-63146987, S-63252730, S-63252977, S-63264724, S-63269206, S-63183709, S-63125730, S-63226715, S-63190218, S-63287206, S-62963726, S-63146971, S-63250210, S-63250970, S-63249498, S-63270709, S-63249981, S-63250007, S-63076708, S-63250997, S-63252728, S-63076727, S-63250004, S-64565709, S-63229469, S-63233458, S-63249225, S-63196516, S-63190240, S-63274723, S-63800206

Summary of issues raised

Submitters raised concerns about impact on firefighting efforts during operation of the project, including:

Impacts on the RFS and local firefighting capabilities

- Big Springs RFS is concerned regarding their ability to attend fires at the proposed Gugaa 500 kV substation and along the transmission line given their limited resources and members and constraints associated with access roads in this area
- Big Springs RFS considered the proposed Gugaa 500 kV substation as a fire hazard and have requested detail regarding the proposed Gugaa 500 kV substation emergency preparedness and management, firefighting assets and Transgrid capabilities
- concerns firefighters will not be prepared to fight fires under the transmission lines

Impacts on firefighting options, risks and strategies

- increased bushfire risks by limiting ground and aerial firefighting options close to transmission lines including limiting use of aircraft/equipment, preventing hazard reduction activities and restricting access for aerial bombing, water supplies (eg dams) and personnel
- limited aerial firefighting options will specifically impact defence of properties in the Bango area and properties with steep terrain
- risk to equipment and personnel (including RFS volunteers) when firefighting close to transmission lines, including from smoke causing electricity to arc and firefighters being unable to get close enough to fires control them promptly
- the statement that ground-based firefighting will not be possible within 25 metres of the transmission line is inaccurate as arcing occurred from the 330 kV line at Ellerslie Road in the Dunns Road fire and showed there is a risk within 300 metres
- residual current may be a threat to firefighters even where lines are isolated
- need uninterrupted power supply during fire emergencies for effective firefighting and switching off transmission lines is not realistic.

Response

Impacts on the RFS and local firefighting capabilities

Transgrid is continuing to build relationships with critical organisations and has been working with the NSW RFS to develop a collaborative approach to risk assessment and management for HumeLink. In particular, Transgrid representatives met with the NSW RFS Commissioner to discuss how they can work together to

support local communities and NSW RFS along the HumeLink route and will continue to develop a partnership that benefits the community and local fire management efforts.

Transgrid acknowledges Big Springs RFS's concerns and will continue to work collaboratively with the NSW RFS to discuss the issues raised in relation to firefighting capabilities near the proposed Gugaa 500 kV substation. However, it is noted that there is a low risk of bushfire ignition as a result of the proposed Gugaa 500 kV substation, given the implementation of an Asset Protection Zone surrounding the substation and standard substation procedural controls. Access to the proposed Gugaa 500 kV substation will be established in accordance with *Planning for Bushfire Protection 2019* (NSW RFS, 2019) requirements and criteria. These requirements will also be applied in relation to Asset Protection Zones, building construction and firefighting water supply.

In the event of a fire-related incident, Transgrid's priority is the safety of personnel, nearby communities, and responders. Immediate actions are taken to identify potential hazards and where practicable reduce the risk in these areas, and potential impacts, and seek to mitigate further escalation. During a bushfire, Transgrid:

- works closely with the RFS to seek safe and secure access to easements for firefighters
- works closely with emergency services in planning and in real time bushfire response to minimise bushfire risk
- has a liaison officer embedded in the NSW RFS Incident Management Team to provide specialist advice in relation to transmission facilities
- will work to de-energise transmission lines when requested by NSW RFS.

Impacts on firefighting options, risks and strategies

A proportion of the transmission lines proposed for this project would be located near or adjacent to existing transmission lines, where firefighting strategies will need to consider this infrastructure. The risk of contact with 500 kV transmission lines by aircraft or water-bucket and cable is considered lower than the risk posed by other less visible hazards such as trees, lower voltage transmission lines or distribution lines. Risk mitigation measures and procedures are included in aircraft operator and firefighter training, should be detailed in the incident action plan for firefighting activities, and included in fire fighter briefings.

Topography has significant influence on bushfire behaviour and increases complexity of firefighting. Under adverse conditions bushfires burning on steep slopes and heavy fuels may support crown fires, with fast rates of spread and spotting for many kilometres ahead of the fire front. Under such conditions, direct firefighting strategies are ineffective and highly dangerous, and the presence of transmission line infrastructure would not alter the risk profile of the associated bushfire.

Potential risks from transmission lines to ground-based firefighting can include situations where dense smoke and hot gases from large fires under or near a transmission line cause arcing. On a site-specific basis, ground-based firefighting, backburning or initial attack on spotfires is not possible within a horizontal distance of approximately 25 metres from the transmission line due to the potential for a phase-to-ground short which may pose a risk to persons, including firefighters. In these circumstances, live transmission lines may pose a constraint to firefighting and property protection. These public safety risks, including transmission line risks, are managed with procedural controls (such as exclusion of personnel, vehicles and attachments within 25 metres of the transmission line when an active fire is present), community briefings, and incident briefings as part of a bushfire incident action plan. Arcing beyond 25 metres (and moreover 300 metres) has not been identified by energy network providers or fire agencies as requiring specific safety controls.

It should be noted that de-energised lines do not provide safe access, and a distance of at least eight metres should be maintained from high voltage conductors as potential residual current on the transmission line can still pose a threat. A de-energised transmission line does, however, minimise the threat of potential flash-over from heavy smoke.

Because de-energising lines on Transgrid's transmission network can result in blackouts across a wide geographical area or generation shortages in the National Electricity Market, the decision to de-energise a transmission line follows a detailed process. As the lead agency in a bushfire emergency, NSW RFS has the power to direct de-energisation of transmission lines. In most cases, the NSW RFS will work with Transgrid's operations team through the local fire control liaison officers to consider the situation on the ground, fire-fighting operational requirements, and potential impacts of de-energisation on the wider community.

Localised disruptions to power supply due to de-energisations would not impact firefighting as emergency firefighting services would be self-sufficient. If, however, de-energisation impacts wider network stability and causes impacts that are geographically dispersed, secondary effects including access to fuel, reliable wide area communications, pressurised mains water and/ or essential community services could be at risk. This may have an effect on firefighting operations and surrounding communities. Transgrid therefore ensures all relevant risks are appropriately considered by coordinating agencies when decisions on de-energisations are being made.

Bushfire awareness measures, including those relating to potential transmission line and substation risks, would be included in the project-specific Bush Fire Emergency Management and Evacuation Plan (BFEMEP) for the construction and operation of this infrastructure.

Submitter ID numbers

S-62406709, S-63131973, S-62494957, S-62510706, S-63252956, S-63543964, S-63270717, S-63271464, S-62663503, S-63267461, S-63269210, S-63269216, S-63253980, S-63236479, S-63195227, S-63105473, S-63269212, S-63229475, S-63190220, S-63222219, S-62977986, S-63190238, S-63119956, S-62910496, S-63140711, S-63194462, S-63271456, S-63541721, S-63250509, S-63252730, S-63266956, S-63104960, S-63252977, S-63252725, S-63264724, S-63269206, S-63183709, S-63125730, S-63226715, S-63190218, S-63253974, S-63287206, S-62923210, S-62963726, S-63146971, S-63250210, S-63250970, S-63249498, S-63148207, S-63274965, S-63249981, S-63250007, S-63076708, S-63250997, S-63252728, S-63076727, S-63250004, S-63229469, S-63233458, S-63249225, S-63196516, S-63190240, S-63274723, S-63800206, S-63249463

Summary of issues raised

Submitters raised concerns about increased bushfire risk, including potential bushfire ignition as a result of the project, as well as its management. Specific comments included:

- concerns much of HumeLink is on or close to high bushfire prone land and the bushfire risk to adjacent areas will further increase with climate change as hot, dry summers and strong winds intensify
- paralleling the new transmission lines with existing transmission lines increases the bushfire risk proportionately
- the transmission lines will potentially start fires from attracting lightning strikes, transmission line failure, transmission line contact with objects and smoke arcing
- there will be days construction will need to cease due to risk of igniting a bushfire

- timber left on site for biodiversity reasons will increase fire risk
- concerns strong winds can cause transmission line structures to fall over (as happened northeast of Yass in 2021) and cause bushfires
- the EIS fails to address bushfire risk to livestock, infrastructure (hay sheds, machinery/sheds, water tanks, cattle yards) and forestry and only assesses houses that are a public safety risk
- clarification on how bushfire risks will be managed, particularly for the transmission line easement and monitored to ensure a prompt response in case of ignition.

Response

Sections 6.1 and 7.1 of *Technical Report 13 – Bushfire Risk Assessment Report* of the EIS discusses areas of bush fire prone land within the project footprint as well as potential project related ignition sources associated with construction and operation of the project. The assessment acknowledges climate change may alter the duration of bushfire seasons and increase the frequency of elevated fire danger days.

The potential bushfire ignition risk associated with 500 kV transmission lines is inherently low based on its design and the mitigation measures applied across the network. The introduction of a parallel line does not alter the residual risk associated with each line. Overhead transmission infrastructure does carry a risk of fire ignition and bushfire risk. However, 500 kV transmission lines have the lowest residual risk of all transmission and distribution line types. This is due to greater distances between conductors and the ground. For all new infrastructure, Transgrid's planning, design, construction and operation take bushfire risk into consideration every step of the way, and apply standards used by energy network providers nationally. This includes risk assessments, constraints mapping and engagement with emergency services as well as local communities.

Transgrid has a wide range of measures to address and further reduce the risk and likelihood of bushfires, including:

- route selection:
 - Route selection follows a holistic approach where a number of factors have to be considered. This includes consideration of technical risks to the transmission network and the potential transmission line infrastructure, including from bushfires. While Transgrid aims to minimise the length of transmission lines through heavily timbered areas such as national parks and State forests, where feasible, this has to be weighed against potential impacts to environment and community.
- planning:
 - As part of the EIS a bushfire risk assessment is undertaken as required by the SEARs. Bushfires can have serious consequences for communities and the natural environment. Mitigation measures have been identified for the detailed design, construction and operation stages of the project.
- design:
 - If a failure or fault occurs on the transmission network, the protection systems are designed to detect issues/faults and switch off the power in a very short period (within milliseconds) to prevent further damage or dangers to the asset and public safety
 - New transmission lines are built with a grounded shield wire along the top of the structure, above the conductors, to protect the line from lightning and safely dissipate any lightning strike energy to ground through an earthing system at each transmission line structure.

- Hazard tree zones would be established to prevent trees of sufficient height falling and striking overhead conductors or the transmission line structures or come close enough to cause electrical flashover. The trees with potential to fall towards the line based on the trees at maximum operating line conditions require removal.
- An easement clearing zone (ECZ) would be established for any vegetation along the transmission line which may intrude on the Vegetation Clearance Requirements (VCR) at maximum line operating conditions (maximum conductor sag and sway) now or at any time in the future. This would include clearing and ongoing management of the vegetation.

The Bush Fire Risk Management Plan (BRMP) for the project, developed as part of the BFEMEP (refer to mitigation measure HR5 in Appendix B (Updated mitigation measures)) will outline protocols to be implemented during construction, including adjustment or suspension of activities based on the fire danger rating forecast.

Cut timber may be purposely left within parts of the transmission line easements for biodiversity reasons providing it does not affect the vegetation clearance requirements for safety or pose a bushfire risk.

It is noted that the transmission line structure failure north-east of Yass in 2021 did not result in a bushfire, and the protection system on the transmission line operated as designed and intended. The HumeLink 500 kV transmission line structures are designed to modern standards which makes them more resilient to the type of wind event that caused a failure on the transmission line structures north-east of Yass. Transmission lines are remotely operated so that they can be shut down when required. If a fault occurs on the transmission network, the protection systems will detect and switch off the power in a very short period of time to prevent an electrical fire.

During operation, Transgrid uses its long established asset management and network safety management systems to reduce bushfire risk and potential impacts to local communities and the surrounding environment, including nature reserves, national parks, livestock, infrastructure, forestry and residences. About half of Transgrid's direct maintenance expenditure each year is dedicated to mitigating bushfire risk, with the intent to manage these risks to as low as reasonably practicable. This is in keeping with obligations under the network safety regulations in NSW and *AS5577-2013: Electricity Network Safety Management Systems*.

Transgrid's comprehensive annual pre-bushfire season maintenance program activities include:

- an extensive vegetation management program with 3D-laser aerial survey of easements using LiDAR technology to provide early mitigation planning for potential vegetation management requirements
- helicopter inspections and aerial imagery of the network to regularly assess the condition of transmission lines
- on-the-ground teams carrying out network inspections and maintenance to provide early mitigation planning for potential vegetation management requirements (this includes work associated with asset buffer zones and access tracks)
- thermographic surveying of substations to assess asset conditions and plan for ongoing maintenance and upgrade as required.

Transgrid's control centre monitors for bushfire threats to the network at all times and there are emergency response, coordination and continuity of service processes in place should a bushfire impact the network. This includes operating protocols, coordination with emergency services and rapid dispatch of staff and spares. In the event of a fire-related incident involving an asset, Transgrid's priority is to provide for the

safety of personnel, nearby communities, and responders. Immediate actions are taken to identify potential hazards and make-safe the areas, where practicable minimise impacts, and mitigate further escalation.

Specific to transmission line easements, vegetation along the transmission line and around the transmission line structures would be cleared in accordance with Section 10.5.5 of the *Transmission Line Design Manual - Major New Build*, which provides requirements for vegetation clearance to minimise bushfire risk. Vegetation within the transmission line easement will be managed in accordance with Transgrid's existing vegetation management standards, consistent with the clearance requirements principle identified in *AS/NZS7000:2016 Overhead Line Design*.

Submitter ID numbers

S-63249463, S-63252732, S-63252749, S-63190220, S-63119956, S-63140711, S-63194462, S-63250509, S-63146971, S-63249498, S-63076708, S-63250004, S-63274723

Summary of issues raised

Submitters raised concerns about evacuation and access routes being impacted by the project during a bushfire event, including:

- access and evacuation routes will be impacted by arcing from transmission lines
- landowners will be unable to move animals to safe ground
- an alternate evacuation/ firefighting access route is needed to bridge the Murrumbidgee River at Nanangroe Road to improve firefighting options at Childowla
- some residences on cul-de-sac roads will have their existing evacuation routes affected by the new 500 kV transmission lines and associated structures
- the proposed lines are lower (down to 12 metres from the ground) than the existing 330 kV lines, which will cut off evacuation routes more.

Response

There is no certainty that access and evacuation routes will be impacted by arcing ('flashovers') from transmission lines during a bushfire incident. For this to occur, the flames must be very close to the transmission line to create conditions conducive for flashover, and therefore during an emergency evacuation the greatest risk to evacuees is the fire itself in that situation.

The potential for access and evacuation routes to be completely cut off during bushfires should be addressed in community emergency messaging by firefighting authorities and personal bushfire planning. Public safety advice is to activate personal bushfire plans as early as practicable. Firefighting agency operating procedures are aligned with Transgrid and wider industry guidance, which advises to maintain a 25-metre separation from live transmission lines when active fires are burning under or directly adjacent to an easement. Transgrid has also provided guidance that aerial firefighting operations can take place around transmission lines. For further information members of the community and firefighting agencies are encouraged to read Transgrid's published fact sheet on [Managing Bushfire Risk](#).

The concerns about needing an alternate evacuation/firefighting access route across the Murrumbidgee River are acknowledged, however this is not proposed as part of the amended project. Transgrid continues to engage with NSW RFS as the planning and design of HumeLink progresses including on matters related to potential use of access tracks following construction.

The design clearance to ground for 500 kV lines is greater than the existing 330 kV line. Transgrid's design has allowed for vehicle/mobile plant to safely traverse the easement and underneath the transmission lines under all operating conditions.

Submitter ID numbers

S-63271464, S-62663503, S-63277212, S-63269206, S-63226715, S-63250210, S-63250007, S-63250997

Summary of issues raised

Submitters raised concerns about transmission line infrastructure being vulnerable to damage from bushfires, which would be costly to repair and interrupt power supply.

Response

Transgrid would establish APZs around substations and project buildings within construction compounds and worker accommodation facilities (mitigation measure HR1), which is a bushfire protection measure that provides a buffer or defensible space around buildings and other assets, commensurate with the construction standards. APZs reduce potential bushfire impacts (where a building is prepared and built-in accordance with bushfire construction standards). APZs would be established from the earliest stages of construction and maintained throughout operation. Vegetation management within the transmission line easement would be managed in accordance with Transgrid's existing vegetation management standards (as per Transgrid Bushfire Formal Safety Assessment (FSA) (2020a), *Humelink Vegetation Clearing Method and Memorandum* (2023a), Bushfire Risk Management Plan (BRMP) (2021a), Overview of the 2019-20 Bushfire Damage to Transgrid's Network (2020b), and Maintenance Plan - Easements and access tracks (2022c)) and in accordance with in *AS/NZS7000:2016 Overhead Line Design*.

When assessing possible transmission line corridor options for HumeLink, Transgrid carried out a natural hazards assessment for the broader HumeLink study area which included modelling potential bushfire risks. The aim of the assessment was to understand how bushfires could impact the potential placement of Transgrid's assets. One of the outputs of this assessment was spatial mapping of different classes of bushfire risk, from very high to low. This mapping was used to inform the transmission line corridor option selection process and sought to avoid higher risk bushfire areas. Bushfire risk is identified as a constraint in the route selection process, and wherever practicable, we seek to avoid placing our infrastructure in areas classed as moderate to high risk as part of the route selection process.

Transgrid's *Transmission Line Design Manual - Major New Build*, requires that designs consider bushfire impacts to assets. This includes consideration in materials selection (including steel transmission line structures and glass insulators), easement width (refer to Appendix A (Updated project description) of the Amendment Report), and vegetation management to ensure network resilience.

7.4.12.3. EMF impacts

Submitter ID numbers

S-63131973, S-62494957, S-63252956, S-63271464, S-63264715, S-62774492, S-62866208, S-63250479, S-62870206, S-63229475, S-63222219, S-62910496, S-63121737, S-63264724, S-63269206, S-63190218, S-62963726, S-63146971, S-63249498, S-63148207, S-63274965, S-63250997, S-63233458, S-63196516, S-63190240, S-63236479

Summary of issues raised

Submitters raised concerns about exposure of humans to EMF and the adequacy of the EMF assessment for the project, including concerns that:

- not enough studies on high voltage transmission lines have been conducted to inform EMF impacts
- the use of high-voltage transmission lines will cause and/or increase EMF impacts, including exposing residents to EMF
- substations also emit EMF and require consideration
- operation of the project will have health risks for residents and farmers from EMF exposure including long term medical conditions such as cancer, brain tumours, infertility, heart problems, and mental health conditions and not enough information was provided on these health risks
- complying with the principle of prudent avoidance as a strategy to manage EMF risks is not possible when living and working near the lines and long-term exposure requires further consideration
- Transgrid has not given EMF emission levels or a plan for monitoring of levels for existing lines and/or proposed lines
- the EMF of a 500 kV double circuit transmission line at full load at ground level, 200 metres and 400 metres has not been addressed in EIS.

Response

Internationally, there have been almost 3,000 studies carried out in relation to EMF. Leading health bodies such as the World Health Organisation (WHO), the US National Institute of Environmental and Health Sciences and the UK National Radiological Protection Board have evaluated the research to assess the likelihood of health effects associated with exposure to EMF. Transgrid is guided by the advice from the WHO and Australian Radiation Protection and Nuclear Safety Agency (ARPANSA), the responsible agency in Australia for advising on exposure limits to EMF. The equipment used for the transmission of electricity for HumeLink would operate at a frequency of 50 Hertz (Hz), which falls into a range referred to as extremely low frequency (ELF) EMF.

EMF impacts are discussed in Chapter 19 (Hazards and risks) of the EIS and Chapter 6 (Assessment of impacts) of the Amendment Report. The EMF assessments found that whether in isolation or in combination with the existing 132 kV and 330 kV transmission lines, the contribution of the proposed 500 kV lines to the magnetic field environment is expected to be well below *the International Commission on Non-Ionising Radiation Protection (ICNIRP) Guideline Reference Level of 2,000 milligauss (mG) for public exposure to magnetic fields*. This includes both directly under the transmission line and at the edge of the easement. There would be little interaction with the magnetic fields of existing 330 kV and 500 kV transmission lines nearby, except at the undercrossings, where the field contributions from the two lines would interact. The highest resulting magnetic fields would be very localised, with the highest magnetic field predicted to occur at the undercrossing of the new 500 kV transmission line between Wondalga and the future Maragle 500 kV and the Lower Tumut-Murray 330 kV line. Further EMF assessment undertaken

for the amended project identified that the magnetic field is modelled at a value well below the ICNIRP Guidelines Reference Level of 2,000 mG.

The revised EMF assessment calculates the EMF for the proposed transmission lines in the amended project at one metre above ground level. It is noted that electric fields are strongest closest to their source, and their strength diminishes rapidly with distance from the source. The EMF levels modelled:

- directly under the proposed transmission lines are 5.8 kV/m, 210 mG
- at 200 metres away from the transmission line are 0.007kV/m, 3.1 mG
- at 400 metres away from the transmission line are 0.001kV/m, 0.65 mG.

All these values are well below the relevant ICNIRP Guidelines of 9.1 kV/m and 2,000 mG. Overall, the assessment found that under the worst-case scenario conditions (emergency conditions directly beneath the transmission line) the highest predicted magnetic fields are less than 19 per cent of the ICNIRP Guidelines Reference Level.

The potential future energisation of the new transmission line section between the existing Wagga 330 kV substation and the proposed Gugaa 500 kV substation at 500 kV is assessed in Chapter 6 (Assessment of impacts) of the Amendment Report. Energisation of the line at 500 kV, as assessed, would only occur at the commissioning stage of the Victoria to NSW Interconnector West project, which is subject to a separate approval. The highest predicted magnetic field from this line when operating at 500 kV is 2.5 per cent of the ICNIRP Guideline Level, while the highest predicted electric field would range from five to eight per cent of the ICNIRP Guideline Reference Level.

As detailed in mitigation measure HR13, all substations would be designed to ensure the EMF levels are within ICNIRP Occupational Guideline Levels within the substation and ICNIRP Guideline Reference Levels for General Public outside the substation. For further details refer to Section 19.5.1.3 of the EIS and Chapter 6 (Assessment of impacts) of the Amendment Report.

While there is currently no scientific evidence or research that confirms long-term exposure to ELF EMF causes any health effects, and compliance is demonstrated by meeting ICNIRP Guidelines Levels which protect against known effects of EMF, Transgrid takes a precautionary approach of 'prudent avoidance'. Prudent avoidance is an approach taken by owners of electrical infrastructure to design their facilities to reduce the intensity of the EMF where prolonged exposure is possible. The electricity infrastructure associated with HumeLink is designed to reduce the intensity of the electric and magnetic fields they generate, and where practicable is located away from houses to minimise ongoing public exposure to the fields. This approach is detailed in Section 19.6.2 of the EIS.

Transgrid's precautionary approach to the management of EMF includes:

- taking EMF into account in the design and location of new facilities
- closely monitoring ongoing research and reviews by scientific panels and international policy developments
- regularly reviewing our policies and practices in light of the latest scientific information
- measuring field strengths in and around our own installations and other places where appropriate, to ensure compliance with EMF design criteria as detailed in new mitigation measure HR14 (refer to Appendix B (Updated mitigation measures))
- providing up-to-date information to interested people on request.

Submitter ID numbers

S-63252956, S-63267457, S-62774492, S-62870206, S-63229475, S-63222219, S-63264724, S-63190218, S-62963726, S-63146971, S-63148207, S-63274965, S-63076708, S-63250997, S-63190240, S-63196516, S-63250479

Summary of issues raised

Submitters raised concerns about exposure of animals and livestock to EMF, including that:

- EMF will negatively affect animal agriculture, including risks that livestock would develop cancer or have impacted fetuses, and livestock will avoid grazing under transmission lines
- EMF will impact insects, especially bees who pollinate crops
- stock raised near the lines can be sold in Australia but not in the European Union.

Response

The concerns about the exposure of animals and livestock to EMF are noted, but there is limited scientific evidence to support these claims.

The possibility of EMF effects on animals and livestock, including cows, sheep, pigs and horses, has been studied since the 1970s. In 1991, Sir Harry Gibbs published the findings of an extensive NSW Government inquiry into community needs and high voltage transmission line development (the Gibbs Inquiry) and concluded that *“no reason exists for concern as to the effect of the fields on animals or plants”*. More recently, in 2011, the UK Government adopted a *National Policy Statement (NPS)* for Electricity Networks Infrastructure that states *“there is little evidence that exposure of crops, farm animals or natural ecosystems to transmission line EMFs has any agriculturally significant consequences”*.

The study, *‘Extremely low-frequency electromagnetic fields disrupt magnetic alignment of ruminants’* (Burda et al., 2009), which was cited in submissions, observes the orientation of resting cattle under power lines. However, it does not draw any conclusion regarding behaviour. Other sources cited in submissions were also reviewed but were considered not to be relevant as they related to newspaper articles in French media or concerns over telecommunications infrastructure that operates at very high frequencies compared to the transmission lines proposed as part of the project.

While EMF generated from the project is considered unlikely to have notable adverse effects on animals and livestock, the proposed transmission lines may produce audible noise that animals are sensitive to, causing them to graze at a distance from the line.

Regarding concerns about the effect of EMF on bees, the Gibbs Inquiry also considered the potential for impact and concluded that bees in hives under or near transmission lines are adversely affected by shocks created by currents induced by the lines. However, no conclusions were made regarding bees outside of the hive. Similarly, the study *‘Increased aggression and reduced aversive learning in honey bees exposed to extremely low frequency electromagnetic fields’* (Shepherd et al., 2019), which was cited in submissions, also based its conclusions on bees in hives and suggested further investigations are needed to determine the potential effects of EMF on insect biology and ecology, including pollination.

Livestock proposed to be sold on the European Union (EU) market would be required to meet the requirements detailed in the *Export Control Act 2020* (Commonwealth) and the *Export Control (Meat and Meat Products) Rules 2021*. The Commonwealth Department of Agriculture, Fisheries and Forestry’s *European Union Cattle Accreditation Scheme (EUCAS) Policy* sets out further requirements that need to be

met to sell cattle on the EU Market. There are no requirements relating to livestock raised near transmission lines. Further advice on selling livestock on the EU Market can be found at: agriculture.gov.au/biosecurity-trade/export/controlled-goods/meat.

7.4.12.4. Other hazards and risks

Submitter ID numbers

S-62910496

Summary of issues raised

Submitters raised concerns about the safety of construction workers and livestock when construction activities are in proximity to livestock.

Response

The safety of construction workers will be managed under Transgrid's Work Health, Safety and Environmental (WHSE) Management Plan and construction contractors' Safe Work Method Statements (SWMS).

Further, individual PMPs will be developed during the property acquisition and compensation process in consultation with affected landowners. These plans will address individual property requirements during the construction stage of the project, including adjustments to property infrastructure (such as fencing), biosecurity protocols, as well as agreed timing and location of works to limit disruption of landowner activities, including those associated with livestock. Land Access Officers would continue to liaise with landowners throughout construction to assist with the implementation of biosecurity and access protocols and the interaction between agricultural activities and construction work to minimise and manage impacts.

Submitter ID numbers

S-63076708

Summary of issues raised

Submitters raised concerns about the potential electrification of fences from the project.

Response

All fences within Transgrid easements are required to be built with wooden or other non-conductive materials to minimise the risk of injury and/or damage to property, where practicable. Where this is not practicable and metal fences have been installed, certain requirements must be met and are outlined in Transgrid's *Fencing Guidelines* (Transgrid, 2017). In accordance with this, earthing and isolation panels would be required for any metal property fences that run parallel to the transmission line within the transmission line easement or across the easement within 25 metres of the base of a transmission line structure. As noted above, Transgrid is working with affected landowners regarding property requirements such as fencing adjustments as required to meet safety requirements.

Submitter ID numbers

S-62976708

Summary of issues raised

Submitters raised concerns about transmission lines cause danger of electrocution to traffic in extreme weather that causes a collapse of the transmission line.

Response

Transmission lines are designed and constructed based on specific standards and engineering principles to withstand anticipated environmental stresses, including those associated with extreme weather.

HumeLink's transmission line structures have been designed to 5,000 years wind return period which equates to a very low annual probability of failure of 0.02 per cent. The transmission line design also provides additional line security at significant crossings eg navigable waterways, highways and main roads. Transgrid has never experienced structure collapse with its 500 kV network.

Transmission lines are remotely operated so that they can be shut down when required. If a failure or fault occurs on the transmission network, the protection systems will detect issues/faults and switch off the power in a very short period of time (within milliseconds) to prevent further damage or dangers to the asset and public safety.

7.4.13. Traffic transport and access

7.4.13.1. Existing environment

Submitter ID numbers

S-63179462, S-63190220, S-63229469

Summary of issues raised

Submitters raised queries and concerns about the identification and characterisation of the existing road infrastructure and transportation services, including:

- Childowla Road has been described inaccurately as the condition of the road is worse than described and requires upgrading for safety
- whether any council roads not listed in the EIS will need to be used for the project
- why only four unsealed roads were identified
- Westwood Road was not identified as an unsealed road
- the EIS states Snowy Valley Council has no bus services however school bus services exist.

Response

The existing road network across the traffic study area was shown in Chapter 4 (Project description – construction) and *Technical Report 16 –Traffic and Transport Impact Assessment* of the EIS. A total of 140 roads in the traffic study area were identified as unsealed, including Westwood Road.

Childowla Road is described as a sealed, two-lane local road in the EIS. Prior to construction, road condition assessment would be prepared for all local roads to be used during and following construction. The surveys would assess the condition of the road service at the time. Engagement with the relevant road

authorities and councils is ongoing through finalisation of detailed design and construction planning to identify potential upgrade or repair activities on access routes prior to construction.

Chapter 3 (Description of the amended project) and *Technical Report 16 – Revised Traffic and Transport Impact Assessment* of the Amendment Report provides details of the amended project, which includes additional access tracks identified as requiring upgrade and new access tracks, and routes likely to be used during construction of the project. As identified in Section 6.1.3 of *Technical Report 16 – Revised Traffic and Transport Impact Assessment* of the Amendment Report, the amended traffic study area comprises the anticipated access routes connecting transmission line structures and associated work sites, construction compounds, worker accommodation facilities and substations. The amended study area includes roads within the LGAs of Wagga Wagga City, Snowy Valleys, Cootamundra-Gundagai Regional, Yass Valley, Upper Lachlan Shire, Goulburn Mulwaree and Hilltops. The final access track design will be refined, and any requirements for the existing roads connecting to the tracks would be identified and planned in consultation with the relevant council and/or Transport for NSW.

Concerns about the consideration of school bus services in the EIS are noted. Further investigation of the existing school bus network has been undertaken in Section 5.7.2.4 of *Technical Report 16 – Revised Traffic and Transport Impact Assessment* of the Amendment Report. It is noted that school bus services that interact with the amended traffic study area are included in the Snowy Valleys Council LGA and Cootamundra-Gundagai Regional Council LGA. However, as construction traffic is not anticipated to adversely impact the road network performance, school bus services are not expected to experience delays. Similarly, potential impacts during operation are expected to be negligible due to the low traffic generated for the operation of the project combined with the infrequent nature of the school bus movements. Further consideration of the school bus routes identified in *Technical Report 16 – Revised Traffic and Transport Impact Assessment* of the Amendment Report will be included in the Traffic and Transport Management Plan (TTMP) developed for the construction of the project.

7.4.13.2. Construction impacts

Submitter ID numbers

S-62084706, S-62664727, S-62494957, S-63146987, S-63252977, S-63249981, S-63076708, S-63179462, S-63190220, S-63229469

Summary of issues raised

Submitters raised concerns about impact on road condition and traffic during construction, including:

- traffic will be increased and roads used will be damaged, impacting on road safety
- how road user safety would be protected, particularly for children near access routes
- construction vehicles will likely impact Hillcrest Road due to its existing poor condition
- Batlow Road would become unsafe as it is very narrow and busy and would be used by both Transgrid heavy vehicles and existing traffic from logging trucks and Visy
- the project should not proceed until appropriate remediation of Childowla Road is undertaken to improve road safety
- Transgrid should bear road damage costs not councils
- the number of construction vehicles that will need to access the proposed Gugaa 500 kV substation may result in damage and safety hazards along Livingstone Gully Road.

Response

Potential road safety impacts during construction and operation of the amended project are considered in Sections 6.3.4 and 7.3.3 of the *Technical Report 16 – Revised Traffic and Transport Impact Assessment* of the Amendment Report, respectively. Additional traffic associated with construction of the amended project is unlikely to impact on road condition, road network performance or other crash contributing factors, and is therefore unlikely to impact on the existing level of road safety. It is acknowledged that there may be minor disruption during construction associated with the requirement for temporary traffic management measures to be employed at certain locations. This would be in place to ensure that there is no compromise to road safety associated with the construction of the project. Traffic controls would be identified within the TTMP to be implemented by the construction contractors to minimise any potential impact on road safety.

Hillcrest Road is identified as a one lane unsealed local road in *Technical Report 16 – Revised Traffic and Transport Impact Assessment* of the Amendment Report. The likely duration of impacts is expected to be short term, and the level of service remaining the same throughout the duration of construction of the amended project.

Batlow Road is a sealed State road which generally has one lane per direction and allows restricted access vehicles. The impacts on Batlow Road were assessed in *Technical Report 16 – Revised Traffic and Transport Impact Assessment* of the Amendment Report as short term, with the level of service unchanged during construction of the amended project.

Potential impacts on the condition of the sealed roads within the amended traffic study area is expected to be manageable. However, this would depend on the existing pavement condition and applicable load restrictions at the time of construction commencement. Impacts are most likely to occur on unsealed roads used to access construction compounds due to the volume of proposed heavy vehicle traffic. Potential impacts on road condition would be managed through the implementation of revised mitigation measure TT4:

Prior to construction, road condition assessments will be carried out for all local roads to be used during construction. The surveys will assess the current condition of the road surface and will be documented in a road condition report, with a copy being provided to the relevant road authority. Road condition assessments will be undertaken during and following construction to assess the damage to roads accessed by project-related traffic. Damage caused by the project will be rectified or compensated for during or after construction in consultation with the relevant road authority.

The road condition assessments referenced in revised mitigation measure TT4, would be undertaken by an appropriately qualified engineer who would record and assess the surface conditions of the road network during and following construction. This process would also confirm if any further road upgrades were required for road safety, such as at Childowla Road. A road condition report would document the survey, typically including photographs or video of the road surface condition. Damage caused by the project will be rectified during or after construction in consultation with the relevant road authority.

It is noted that the amended project, assessed in *Technical Report 16 – Revised Traffic and Transport Impact Assessment* of the Amendment Report, increases the maximum daily movements at the Gugaa 500 kV substation from 102 to 340 heavy vehicles and from 190 to 230 for light vehicle movements

The need for road improvement work along Livingstone Gully Road to facilitate connection with the operational access road to the proposed Gugaa 500 kV substation was identified in Section 3.4.1.2 of the EIS. The extent and design of the road work would be confirmed and informed by road condition

assessments (undertaken in accordance with revised mitigation measure TT4 (refer to Appendix B (Updated mitigation measures)), and confirmation of the oversized and/or overmass haulage route by the construction contractors.

Road upgrades required for the project would be carried out in accordance with the relevant Austroads Guides (where applicable), any road occupancy licence(s), and in consultation with the relevant road authority. Relevant Austroads Guides include (but may not be limited to):

- *Guide to Road Design* (Austroads, 2023)
- *Guide to Road Safety* (Austroads, 2021a)
- *Guide to Traffic Management* (Austroads, 2020)
- *Guide to Temporary Traffic Management* (Austroads, 2021b).

7.4.13.3. Operational impacts

Submitter ID numbers

S-63270717, S-63179462

Summary of issues raised

Submitters raised concerns about access impacts to emergency vehicles due to the project.

Response

As noted in Section 19.5.5 of the EIS, operation of the project would not have an impact on existing emergency vehicle egress or evacuation routes. Access tracks established during construction that are retained for operation would assist with emergency service vehicle access and safe evacuation routes if required.

7.4.14. Air quality

7.4.14.1. Methodology

Submitter ID numbers

S-63274723

Summary of issues raised

A submitter raised concerns that the EIS has not adequately assessed dust generated from potentially contaminated land and the associated health impacts.

Response

The potential for dust generation from the project during construction was described in Chapter 21 (Air quality) and *Technical Report 17 – Air Quality Impact Assessment* of the EIS. Further assessment has been carried out for the amended project and is included in Chapter 6 (Assessment of impacts) and *Technical Report 17 – Air Quality Impact Assessment Addendum* of the Amendment Report. With the implementation of mitigation measures detailed in Appendix B (Updated mitigation measures), particularly mitigation measure AQ1, it is expected that dust impacts for construction activities would be managed to acceptable levels such that there is negligible risk of adverse air quality effects at the sensitive receivers.

As discussed in Section 7.4.9.2, some areas with a moderate risk of contamination were identified within the project footprint and amended project footprint in *Technical Report 10 - Phase 1 Contamination Assessment* of the EIS and *Technical Report 10 – Phase 1 Contamination Assessment Addendum* of the Amendment Report. However, with the implementation of mitigation measure SC2, potential dust risks associated with the disturbance of contaminated soil within these areas would be managed.

7.4.14.2. Potential impacts

Submitter ID numbers

S-62494957, S-63252977, S-63252725

Summary of issues raised

Submitters raised concerns about air quality impacts from construction vehicles travelling on access tracks and roads, particularly around the proposed Gugaa 500 kV substation and dust impacting nearby residences.

Response

Air quality impacts are addressed in Chapter 21 (Air quality) of the EIS and *Technical Report 17 – Air Quality Impact Assessment* prepared for the EIS. Further assessment has been carried out for the amended project and is described in Chapter 6 (Assessment of impacts) and *Technical Report 17 – Air Quality Impact Assessment Addendum* of the Amendment Report.

The assessments found that the main risk of air quality impacts during construction would occur as a result of dust generation from earthwork and the movement of vehicles and machinery, particularly on unsealed roads. The assessment identified that without mitigation, the preliminary risk of air quality impacts from the establishment and use of unsealed access tracks would range from medium to high. However, the impacts would be intermittent, of short duration and would likely only impact a small number of receivers at any given time due to the linear nature of the project. With the implementation of mitigation measures, this risk is considered negligible.

Impacts on air quality from gaseous emissions from construction vehicles would be dependent on the number and power output of the combustion engines, the quality of fuel used, the condition of the engines and the intensity of use, as outlined in Section 21.4.2 of the EIS. Gaseous emissions would be most noticeable from the use of trucks and other vehicles including helicopters accessing and idling. However, overall gaseous emissions pose a negligible risk of adverse effects on air quality with implementation of standard mitigation measures.

Technical Report 17 – Air Quality Impact Assessment Addendum of the Amendment Report assesses that there is a high risk of adverse dust impacts occurring at the sensitive receptors closest to the proposed Gugaa 500 kV substation work if no mitigation measures are applied. The greatest risk of dust impacts from the proposed Gugaa 500 kV substation construction site would occur during earthworks and track-out activities (ie the transport of dust and dirt via vehicles from the construction site onto the road network). However, with the implementation of mitigation measures AQ1 and AQ3, the risk of dust impacting nearby sensitive receptors (ie nearby residences) is considered negligible.

Air quality impacts during construction, primarily anticipated to be associated with dust emissions, will be monitored and measured as specified in the Air Quality Management Plan (AQMP) that would be prepared

as part of the CEMP. Mitigation measures AQ1 to AQ3 and revised mitigation measures AQ4 and AQ5 include:

- management of dust emissions through water sprays/ surfactants
- maintaining vehicle/ machinery to emissions
- visually monitoring dust generation from project-related traffic movements on unsealed roads and access tracks in proximity to sensitive receivers.

7.4.14.3. Management of impacts

Submitter ID numbers

S-62910496, S-63112219, S-63274723

Summary of issues raised

Submitters raised concerns about the application and adequacy of mitigation measures to manage dust emissions. Specific comments included:

- dust generation due to an increase in traffic movements required for the construction of the project impacting the quality of water captured in rainwater tanks and impacting on the efficiency of solar panels
- mitigation measures (eg sealing the road) are required for Livingstone Gully Road and Trewalla Road, which are unsealed roads, to effectively manage dust from vehicles accessing the project
- using water sprays or surfactants to manage dust will be inadequate to manage dust at the submitter's residence due to the proximity of Trewalla Road and the likely construction traffic volumes
- the proposed mitigation measures will not effectively manage dust generated from potentially contaminated land.

Response

Transgrid acknowledges the concerns about dust generated by construction activities. Property infrastructure has been identified in Section 11.3 of the EIS and the impacts of dust deposition on rainwater tanks were considered in Chapter 21 (Air quality) of the EIS.

The Air Quality Management Plan will specify a range of mitigation measures and monitoring requirements to manage potential air quality impacts. This would include controls to manage dust as detailed in mitigation measure AQ1. The effectiveness of the controls will be monitored, and additional controls will be implemented as required to address any performance issues identified.

In addition, dust generation from project-related traffic movements on unsealed roads in proximity to sensitive receivers will be visually monitored in accordance with mitigation measure AQ3. Where monitoring identifies that dust is impacting sensitive receivers, measures will be implemented where practicable and appropriate to minimise dust generation.

Mitigation measure SC2 includes requirements to avoid or minimise disturbance to potentially contaminated land identified as having a moderate risk of contamination or greater. Where disturbance cannot be avoided, a standard approach to managing risks has been identified, which includes further investigation and assessment against the criteria contained within the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (as amended 2013) (NEPC, 2013). With the implementation of mitigation measures AQ1 and SC2, the risk of generating dust from potentially contaminated land would be appropriately managed.

7.4.15. Climate change and greenhouse gas

7.4.15.1. Potential impacts

Submitter ID numbers

S-63179462, S-63119956, S-63219970, S-63183709, S-63287206, S-63800206, S-63125716, S-63266956

Summary of issues raised

Submitters raised concerns about greenhouse gas (GHG) impacts from the project. Specific comments included:

- the project would contribute to GHG and climate change through large-scale land clearing, vegetation removal and the consumption of large volumes of concrete and steel
- a request for further details on the carbon footprint of the project
- clear-felling of land along the easement corridor conflicts with scientific research that demonstrates vegetation clearance directly contributes to a warming and changing climate
- bushfire risk from the transmission lines should be considered as a potential source of GHG emissions.

Response

Overall, it is noted that the HumeLink project is part of a vital upgrade of NSW's transmission network that is required for Australia to meet its goal of net-zero emissions by 2050. Once operational, the amended project is expected to contribute positively to a reduction in emissions from the NSW electricity grid by enabling the introduction of new renewable energy generation in the Wagga Wagga and Tumut Renewable Energy Zones, connection with South West renewable energy zone via Project EnergyConnect and improving interstate connectivity.

Since public exhibition of the EIS, the GHG emissions estimates have been revised to reflect the amended project (refer to Chapter 6 (Assessment of impacts) of the Amendment Report). During construction of the amended project, the estimated total:

- direct Scope 1 emissions (excluding land clearing) equate to 92,543 t CO₂-e
- Scope 2 emissions (associated with electricity consumption at construction compounds, the worker accommodation facilities and substations) equate to 1,264 t CO₂-e
- Scope 3 emissions (relating to the energy embodied in materials of construction) equate to 323,370 t CO₂-e.

The main source of emissions associated with the operation of the amended project are Scope 1 emissions (associated with leakage of SF₆) equating to 2,010 t CO₂-e, for the Scope 2 emissions (relating to transmission losses) equating to 127,980 t CO₂-e and Scope 3 emissions equating to 4.5 t CO₂-e. The impact of the amended project construction on the NSW and national GHG emission loads is estimated to be negligible, with the annual average emissions representing less than 0.1 per cent of NSW's annual emissions.

Transgrid measures and reports Scope 1 and 2 emissions in accordance with the *National Greenhouse and Energy Reporting Act 2007*. Scope 3 emissions measurement and reporting is undertaken as part of voluntary corporate commitments. The climate change and GHG mitigation measures in Appendix B (Updated mitigation measures), are being implemented during finalisation of detailed design, and will continue through to construction and operation to avoid or minimise potential impacts on climate change

and GHG. To assist with monitoring and reporting, a GHG management plan will be prepared for the project, including strategies to reduce GHG emissions.

Clearing of forestry and other vegetation can cause an increase in GHG emissions. Land clearing would result in direct (Scope 1) emissions associated with the loss of carbon stock in areas that would be cleared along the transmission line. Land use change is not included in Scope 1 reporting requirements under the National Greenhouse and Energy Reporting Scheme. Land clearing emissions have therefore not been included in the emission inventory presented in the assessment. Notwithstanding, commitments regarding the minimisation of land clearing are included in Appendix B.1 (Updated biodiversity mitigation measures).

Green waste would be managed as per Section 23.4.2 of the EIS, with usable timber reused within the easement for fauna habitat or offered to directly affected landowners, where practicable. Following this, clean green waste would be chipped, mulched and reused on site for landscaping or other suitable uses where practicable. Offsite beneficial reuse, including but not limited to re-use of felled timber, would be in accordance with the EPA mulch exemption and must pose minimal risk of the presence of physical and chemical contaminants and be in compliance with the *Biosecurity Act 2015*. The use of felled timber for firewood is not being considered for this project.

Bushfires can generate a temporary increase in GHG emissions (notably carbon dioxide) from burnt forests. Transgrid takes the risk of bushfires very seriously and the safety of their people, landowners and communities is their first priority. As discussed in Section 7.4.12.2, Transgrid has a wide range of measures to address and further reduce the risk and likelihood of bushfires, which commence during the route section phase and continue through to operation. It is considered that with the implementation of these measures, the temporary increase of GHG emissions from bushfires is not required to be included as a potential emission source as part of the GHG assessment.

Submitter ID numbers

S-63277212, S-63125730, S-62923210

Summary of issues raised.

Submitters raised concerns about the resilience of HumeLink when considering climate change impacts related to increasing fire weather and extreme weather events. Submitters also raised concerns regarding flow-on impacts associated with climate change and extreme weather events impacting transmission lines, and the function of transmission and distribution networks.

A submitter also raised concerns about the need for climate change risk led design measures to be included for the project.

Response

Concerns about the resilience of HumeLink when considering climate change impacts are noted. Transgrid acknowledges the need to build a secure, reliable and resilient energy system that provides affordable energy for all in its *Energy Vision: A clean energy future for Australia* (Transgrid, 2021b). Transgrid has considered a range of climatic conditions that may affect assets through detailed modelling scenarios. Results from these scenarios have indicated there is a low likelihood of material increases in network risks faced in the short to medium-term from climate change. This is predominantly due to the geographic distribution of the assets, and associated design and maintenance related controls implemented by Transgrid.

As noted in Chapter 22 (Climate change and greenhouse gas) of the EIS, the project would operate in an environment where the climate is changing, and historic weather conditions may no longer represent the conditions within which the project would operate over its lifetime. Section 22.5.1 of the EIS discusses climate change vulnerabilities relevant to the project, including those arising due to risk from rising temperatures and heatwaves, exposure to climate events including bushfires and wind, exacerbated bushfire risk, and compounding events. Table 22-5 details specific risks to concrete and steel.

In addition, the effects of climate change have been considered in assessing bushfire risks for the project (refer to Section 5.2 of *Technical Report 13 – Bushfire Risk Assessment* of the EIS) and flooding impacts on the project (refer to Section 4.6.2.1 of *Technical Report 11 – Hydrology and Flooding Impact Assessment* of the EIS).

Transgrid considers climate-resilient infrastructure as being planned, designed, built, and operated in a manner that is prepared for and adapts to changing climate conditions, and can quickly recover from related disruptions. Transgrid is committed to ensuring its assets remain resilient to climate change and, in doing so, reduce risks that will hinder its continued ability to provide a safe, reliable, and efficient transmission system. Transgrid's general approach to ensuring network assets remain climate-resilient is to:

- model the climate change impacts against its transmission infrastructure assets
- risk assess levels of impact and identify required actions
- prioritise and efficiently execute agreed resilience actions.

This forms the basis of Transgrid's asset resilience and climate strategy.

Sustainability Theme 2 from the *HumeLink Sustainability Strategy* described in Chapter 24 (Sustainability) of the EIS provides that infrastructure and operations would be designed to be resilient to the impacts of climate change. The sustainability objectives set for this theme, with potential project-specific initiatives to be delivered for the project include:

- undertaking a Climate Change Risk Assessment in accordance with the Task Force On Climate-Related Financial Disclosure requirements (physical and transitional risks and opportunity identification)
- using Indigenous knowledge to inform adaptation measures and resilience strategies
- identifying and implementing adaptation measures to mitigate all extreme and high residual climate change risks
- identifying and implementing adaptation measures to treat 25-50 per cent of all medium residual climate change risks.

These initiatives would be considered during further detailed design to reduce risks from climate extremes, reducing time and cost to restore operations, improving asset durability and improving service reliability.

7.4.16. Waste

7.4.16.1. Methodology

Submitter ID numbers

S-63076708

Summary of issues raised

A submitter raised concerns about green waste volumes being underestimated as quantification in the EIS was an area as opposed to a volume.

Response

The waste types and estimates identified in Chapter 23 (Waste) of the EIS are indicative and have been identified for the purpose of determining potential waste management measures. The estimate of 1,115 hectares refers to the indicative area of vegetation that is likely to be disturbed by the project. The volume of green waste has not been quantified at this stage of the project as this would be dependent on the density and height of the vegetation. However, any uncertainty associated with the final quantities of green waste generated by the project would be appropriately managed with the implementation of the waste management measures in Appendix B (Updated mitigation measures).

Additionally, as discussed in Section 23.4.2 of the EIS, usable timber would be reused within the easement for fauna habitat or offered to directly affected landowners, where practicable. Following this, clean green waste (ie free of weeds and weed seeds) would be chipped, mulched and reused on site for landscaping or other suitable uses (in accordance with the relevant NSW EPA Resource Recovery Order), where possible. Weed contaminated green waste and any clean green waste that cannot be reused onsite would be disposed of and taken to a licensed waste facility in accordance with mitigation measure W3 (refer to Appendix B (Updated mitigation measures)).

7.4.16.2. Management of impacts

Submitter ID numbers

S-63253974, S-63076708

Summary of issues raised

Submitters raised concerns about waste management during and after construction, including in relation to:

- an influx of construction workers that would overwhelm community waste management
- transporting processed waste, including concrete and other disposables
- end-of-life infrastructure waste including transmission line structures and cables, and who bears the responsibility for this waste
- re-use of timber on-site, which may mean 'dump it where it fell' and become an issue for the adjacent landowner.

Response

The likely waste streams, volumes and potential impacts of waste are presented in Chapter 23 (Waste) of the EIS. Table 23-4 of the EIS describes the potential management approaches for the different waste streams. Waste estimates for the amended project are provided in Appendix A (Updated project

description) of the Amendment Report. The waste types and volumes identified are indicative and have been identified for the purpose of determining potential waste management measures.

General solid waste generated by workers, worker accommodation facilities and from packaging would be taken to a licensed waste facility for disposal. It may be subject to an EPA Resource Recovery Order (compost).

Construction waste, including off-cuts and excess materials such as concrete, timber, plastic and metal, may be subject to an EPA Resource Recovery Order. Where feasible, some construction waste materials such as aggregate would be reused under the appropriate NSW EPA Resource Recovery Order. If materials cannot be reused onsite or as part of the project, demolition waste would be segregated/sorted on site and processed at a materials recycling facility, if practicable. Prior to disposal, arrangements would be made with an appropriately licensed waste facility to ensure the quantity and type of waste can be disposed of at the facility. Mitigation measure W3 identified in the EIS outlines the process for the appropriate storage and transport of waste material, prior to disposal at a licensed facility (refer to Appendix B (Updated mitigation measures)).

As stated in Chapter 26 (Environmental Management) of the EIS, maintenance activities would be undertaken regularly for all project infrastructure components and plant items during the expected lifespan of the transmission lines. Components would be replaced or refurbished towards the end of their serviceable life, extending the service life of the transmission lines to the maximum of 70 years. When any project infrastructure needs to be fully decommissioned, this would be the responsibility of Transgrid and managed in accordance with Transgrid's environmental management system. Restoration and/or rehabilitation (as applicable) and revegetation of decommissioned operational areas would be consistent with the existing land use or as otherwise agreed with the relevant landowners, where practicable. Engagement with relevant stakeholders during decommissioning would be carried out in accordance with Transgrid's operational procedures and guidelines.

As discussed in Section 23.4.2 of the EIS, timber would be reused within the easement for fauna habitat or offered to directly affected landowners, where practicable. Following this, clean green waste would be chipped, mulched and reused on site for landscaping or other suitable uses (in accordance with the relevant NSW EPA Resource Recovery Order), where practicable. Offsite beneficial reuse of timber, including the re-use of felled timber would also be considered (refer to Appendix B.1 (Updated biodiversity mitigation measures)).

7.4.17. Sustainability

7.4.17.1. Ecologically sustainable development

Submitter ID numbers

S-63249463, S-63271464, S-62870206, S-63253974, S-63076708

Summary of issues raised

Submitters raised concerns about sustainability, including the project's consistency with NSW Government policy on climate change and clean energy future and how a project of HumeLink's scale can be sustainable.

Response

As detailed in Chapter 24 (Sustainability) of the EIS, Transgrid is the operator and manager of Australia's most critical high voltage network in the National Electricity Market and is committed to leading the nation's transition to a clean energy future.

NSW Government policies considered during the development of the *HumeLink Sustainability Strategy* include:

- *Sustainability Principles: Infrastructure Australia's Approach to Sustainability* (Infrastructure Australia, 2021)
- *NSW Net Zero Plan Stage 1: 2020 – 2030* (Department of Industry and Environment (DPIE), 2020d)
- *NSW Electricity Infrastructure Roadmap* (DPIE, 2020b)
- *Electricity Strategy 2019* (DPIE, 2019)
- *NSW Circular Economy Policy* (State of NSW and NSW Environment Protection Authority (EPA), 2019)
- *NSW Climate Change Policy Framework* (OEH, 2016)
- *NSW Government's Government Resource Efficiency Policy* (OEH, 2014).

The *HumeLink Sustainability Strategy* (Transgrid, 2022d) details the project-specific sustainability strategy. Sustainability objectives and potential initiatives for HumeLink are detailed in Table 24-1 of the EIS and have been developed to meet NSW Government policy objectives. The eight project themes that have been developed are:

1. deliver infrastructure to accelerate the clean, decarbonised energy future
2. increased resilience to future climate
3. optimise resource efficiency
4. protect and enhance the natural environment and landscape
5. community at the heart of decision making
6. contribute to liveable communities
7. protect and enhance cultural heritage
8. demonstrate sustainability leadership and continual improvement.

Further engagement will be undertaken with the construction contractors to test and refine potential initiatives for each of these themes as the project moves into the next stage. Identified sustainability initiatives and targets would be further refined and relevant requirements included in the contract documents for all detailed design, construction and operations contracts. These themes and the project initiatives under each one provide an effective pathway for HumeLink to meet its sustainability goals. The development of these themes also provides a pathway for use with the Infrastructure Sustainability Council IS rating scheme.

7.4.18. Cumulative impacts

7.4.18.1. Methodology

Submitter ID numbers

S-63076708, S-63274723, S-63194231, S-63196979, S-63249225

Summary of issues raised

Submitters raised concerns about the completeness of the cumulative impacts assessment. Specific comments included:

- HumeLink should be included as a relevant future project in Table 25-3 of the EIS due to its likely impacts
- the cumulative noise impact assessment needs to consider the existing 132 kV and 330 kV transmission lines when assessing the cumulative impact of the project and Rye Park Wind Farm
- lack of disclosure or consideration of other future Transgrid transmission line projects, including a second 500 kV transmission line between Bannaby and Gugaa (outlined in AEMO's Transmission Expansion Options Report and with potential to be in 2024 Integrated System Plan) and the Southern Sydney Loop project from Bannaby to Sydney West substation which has been approved in the AEMO 2022 ISP as an Actionable Project
- clarification is required regarding Transgrid's 99M 132kV Line Rebuild project and potential cumulative impacts with the project, which have not been considered in the EIS
- related road widening projects are not included in the EIS and should be considered in project costs.

Response

The EIS was prepared to assess the potential impacts associated with HumeLink. Table 25-3 of the EIS lists the projects that may compound with HumeLink to cause greater impact on economic, social and environmental issues than the potential impacts that the HumeLink project may cause in isolation. As such, HumeLink is being considered throughout the cumulative impact assessment.

Section 8.3 of *Technical Report 9 – Noise and Vibration Impact Assessment* of the EIS assesses existing 132 kV to 500 kV transmission lines that run parallel to the project footprint to understand cumulative noise emissions and Attachment I has identified sensitive receivers impacted by worst-case cumulative night-time operational noise. This approach is consistent with *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022f) for incremental assessment.

Section 8.4 of *Technical Report 9 – Noise and Vibration Impact Assessment* of the EIS provides an assessment of HumeLink and Rye Park Wind Farm using an issue-specific cumulative impact assessment approach consistent with *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022f). A qualitative assessment was undertaken to determine receivers that would be impacted by HumeLink and relevant future projects including Rye Park Wind Farm. The assessment for operational transmission line noise considered the worst-case scenario from HumeLink, which is the cumulative night-time operational noise, against noise from nearby wind turbines. This assessment determined that worst-case operational noise impacts from transmission lines require relatively still weather conditions whereas worst-case impacts from wind farms require higher wind speeds. Therefore, the likelihood of a noticeable cumulative operational noise impact between such projects is considered minor.

Concerns about the potential cumulative impacts associated with HumeLink and the second 500 kV transmission line between the existing Bannaby 500 kV substation and future Gugaa 500 kV substation and the Southern Sydney Loop project from the Bannaby 500 kV substation to Sydney West substation are noted. Section 25.2.3 of the EIS detailed how relevant future projects were identified for cumulative impact consideration. While these transmission projects have been outlined in the AEMO reports, publicly available information to allow for analysis of potential cumulative impact issues is not available at this stage. As such, it is reasonable not to consider these transmission projects as part of the cumulative impact assessment for the project. This approach is consistent with the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022f).

The 99M 132kV Line Rebuild project is identified in Section 25.4 of the EIS as Coppabella Windfarm project. While there is the likelihood for overlapping or consecutive construction programs, impacts associated with the Coppabella Windfarm project are expected to be localised and minimised with the implementation of mitigation measures. As such, this project did not meet the location and scale criteria as detailed in Table 25-2 of the EIS and was not considered further as a relevant future project.

Widening projects, such as Yaven Creek Road, Adelong, is work being undertaken by Snowy Valleys Council. It is unlikely to present a cumulative impact, given the scale and timing, with work scheduled to be completed before HumeLink obtains approval.

7.4.18.2. Potential impacts

Submitter ID numbers

S-62963726, S-63250210

Summary of issues raised

Submitters raised concerns about cumulative impacts on agricultural land and visual amenity from renewable energy infrastructure and urban growth that would result in industrialisation of the landscape.

Response

Cumulative impacts on agricultural land and visual amenity from HumeLink and relevant future projects were assessed in Chapter 25 (Cumulative impacts) of the EIS. The relevant future projects included a number of renewable energy infrastructure projects such as Gregadoo Solar Farm, Jeremiah Wind Farm, Rye Park Wind Farm, and Crookwell 3 Wind Farm. No urban growth related projects were included in the relevant future projects. In addition, existing and recent renewable energy infrastructure and urban growth projects are not required to be considered in the cumulative impacts as per *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022f).

Potential cumulative impacts on agricultural land and the agricultural industry as a result of the project and the abovementioned projects were found to be minor when considered at a regional scale.

Potential cumulative landscape character and visual impacts from the project and relevant future projects are expected to occur during construction and/or operation. The cumulative visual impact of the project and Gregadoo Solar Farm was expected to be minimal due to the existing electricity infrastructure in the surrounding landscape. Whereas the project and Jeremiah Wind Farm, Rye Park Wind Farm and Crookwell 3 Wind Farm, would introduce new or additional energy generation infrastructure or additional transmission lines into a predominantly rural landscape. These changes, in addition to HumeLink, would result in electricity infrastructure that is larger in scale and more prevalent. The identified impacts would be

managed by implementing the visual amenity mitigation measures detailed in Appendix B (Updated mitigation measures) as well as equivalent mitigation measures as part of the delivery of the relevant future projects.

7.5. Justification and evaluation

7.5.1. Project need and justification

Submitter ID numbers

S-63131973, S-62870206, S-63065456, S-63277212, S-63119956, S-63541721, S-63146971, S-63250210, S-63274965

Summary of issues raised

Submitters raised concerns about the unequal distribution of project costs and benefits. Specific comments included:

- increases inequity as the impacts and benefits associated with transmission and energy projects are not fairly distributed
- the burden is on impacted landowners and rural communities, who may already be impacted by climate change/bushfires
- the project would benefit people in cities more than those in rural Australia/landowners
- Transgrid is driven by wanting to make a profit for foreign investors and prioritises this over minimising long-term costs for communities and the environment
- the project needs/benefits shouldn't outweigh impacts on landowners/the environment
- the EIS has not assessed the distributional equity implications of the project in accordance with the NSW Government Guide to Cost-Benefit Analysis and DPHIs Social Impact Assessment Guideline
- the precautionary principle and intergenerational equity have not been considered.

Response

The project would result in several benefits, including providing all NSW households (not just those in cities) with greater access to reliable and affordable electricity, contributing to economic activity and growth in regional NSW and enabling more renewable energy generation to enter the market and support Australia's emissions reduction targets.

Technical Report 7 – Social Impact Assessment and Chapter 13 (Social) of the EIS provide an assessment and summary (respectively) of the impacts of the project on people within different geographies (ie NSW, the social locality, key communities and the project footprint) in order to identify any differences in the way impacts and benefits may be distributed. This was carried out in accordance with the *Social Impact Assessment Guideline* (DPIE, 2023). It was also acknowledged in this assessment that the local community still feels the effects of recent bushfires.

The HumeLink Community Investment and Benefits Plan outlines several initiatives that have been identified and would be implemented to deliver benefits to local communities that are likely to experience impacts from the project and help address the distribution of project costs vs benefits. Several other plans will also be implemented during construction to provide equitable and balanced distribution of training and employment opportunities while giving priority to communities where Transgrid operates. This includes the Workforce and Workforce Development Plan, Australian Industry Participation Plan, Local Industry Participation Plan and Aboriginal Participation Plan.

Despite this, Transgrid acknowledges that the project costs and benefits may not be distributed equally, with landowners within and next to the project footprint who are expected to experience the highest impacts from the project. Transgrid will continue to work with local landowners to address potential negative impacts through the implementation of mitigation measures and micro-siting of transmission line structures. All property acquisitions would occur in accordance with the requirements of the *Land Acquisition (Just Terms Compensation) Act 1991*, and Transgrid will seek to reach agreement with landowners on the compensation payable for the acquisition of their interest(s) in land.

Technical Report 6 – Economic Impact Assessment was prepared for the EIS using input-output analysis and computable general equilibrium modelling to estimate economic impacts, which is a recognised approach in the *NSW Government Guide to Cost Benefit Analysis* (The Treasury, 2017). This approach captures the distribution of benefits and costs from the project. Chapter 27 (Project justification and evaluation) of the EIS provides an assessment of the project against the precautionary principle and intergenerational equity.

Chapter 27 (Project justification and evaluation) of the EIS concludes that on balance, the strategic need and benefits of the project outweigh the mitigated project impacts on landowners and the environment.

Under the AER rules, Transgrid, like all other Transmission Network Services Providers, must propose the most efficient route for transmission that is in the long-term interests of the consumers of electricity with respect to price, quality, safety, reliability and security of electricity supply. Transgrid's ownership structure does not influence Transgrid's ability to carry out its role as a Transmission Network Services Provider.

Submitter ID numbers

S-62870206, S-63277212, S-62963726, S-63194475, S-63274965

Summary of issues raised

Submitters raised concerns about the need and justification for the project being based on its role in enabling the transition to renewable energy sources. This was largely because they were critical of the reliability, resilience, longevity and environmental impact of renewable energy generation and suggested alternate energy sources were preferable.

Response

The project would provide increased transmission capacity and improve the reliability of the transmission line network within NSW regardless of the energy sources within the NEM and is not reliant on renewable energy generation to provide substantial benefits. Aligned with this, and as the project focuses on energy transmission rather than generation, any issues associated with specific renewable energy sources are considered outside the scope of the project. It is noted that the general process for how and where renewable energy generation is developed in NSW is through the REZ planning process run by Energy Corporation of NSW (EnergyCo).

Submitter ID numbers

S-63065456, S-63277212, S-63219970, S-63146971, S-63250210, S-63250007, S-63250997, S-63249225

Summary of issues raised

Submitters raised concerns about the need and justification for the project being reliant on the Snowy 2.0 project, REZs and other projects identified in the 2022 ISP. Specific comments included:

- need to consider comprehensive transmission requirements from southern NSW to Sydney holistically rather than project-by-project, including their total environmental impacts and cost
- criticism of HumeLink and its association to Snowy 2.0 in the report by the Victoria Energy Policy Centre '*A review of the HumeLink Project Assessment Conclusions Report*' has not been responded to by Transgrid
- the EIS does not acknowledge that the project's primary purpose is to connect Snowy 2.0 and the project would have a shorter route, lower cost, and later construction timing if it did not need to connect Snowy 2.0
- Snowy 2.0 Transmission Connection Project not being included as part of HumeLink is queried
- there is enough time to redesign HumeLink to reduce impacts given the delays to Snowy 2.0
- HumeLink may not have enough capacity to transfer electricity from Snowy 2.0 as well as new renewable energy generation or interstate transfers, and therefore additional transmission lines would be required after Snowy 2.0 is commissioned
- the EIS incorrectly states the project is critical to the NEM, which is not supported by AEMO's top-ranked 2022 ISP candidate development path as the 2022 ISP states the NEM is better off without the project and the project becomes less critical if greater weighting is given to the more likely Progressive Change market scenario
- the project need being tied to undeclared REZs (Wagga Wagga and Tumut) is misleading.

Response

AEMO's Integrated System Plan is a whole-of system plan that provides an integrated roadmap for the efficient development of the NEM. The 'project-by-project view' is to enable a mechanism for delivery to meet the timeframes required to transition to renewable energy.

The PACR and PACR addendum were developed through the AER regulatory funding approval process and were accepted by the AER.

Chapter 2 (Strategic context and project need) of the EIS acknowledges that the project would provide the additional transmission capacity required to realise the full benefits of the Snowy 2.0 project and would have a direct interface with the Snowy 2.0 Transmission Connection Project. The critical state significant infrastructure (CSSI) declaration for HumeLink is also included together with the Snowy 2.0 project (refer to clause 9, Schedule 5 of the State Environmental Planning Policy (Planning Systems) 2021), which acknowledges the relationship between these two projects and their joint benefits to NSW. Since the CSSI declaration, the projects have been separated for delivery purposes.

HumeLink is a priority project for the AEMO and the Commonwealth and NSW governments and is critical to secure the network before the coal-fired generators are decommissioned as part of Australia's transition to renewable energy. Delay in completion of HumeLink would put the stability of the network at risk.

Furthermore, the operation of HumeLink does not rely on Snowy 2.0 to be completed. The transmission line section from Wagga Wagga to Bannaby would be able to be energised, transmitting energy from

southern NSW to major load centres within NSW (Sydney, Wollongong and Newcastle). While the HumeLink transmission line is designed to run safely at capacity during peak loads when Snowy 2.0 is operational, it is expected that HumeLink would reach capacity once the REZs are developed and connected.

HumeLink would reduce the risk of electricity supply scarcity for NSW consumers by improving access to stored energy from across the entire Snowy scheme, renewable energy from southern NSW and energy from South Australia (via Project EnergyConnect) and Victoria (via VNI and VNI West), even in the absence of Snowy 2.0. The Draft 2024 ISP confirms the role of HumeLink in providing the NEM better access to energy storage assets that can “mitigate renewable droughts and balance energy across seasons”. The potential delay of Snowy 2.0 places even more importance on the timely completion of HumeLink to connect to other stored energy sources. It would also provide greater network resilience if other generation, storage and transmission projects are delayed.

The EIS acknowledges that the Wagga Wagga and Tumut REZs are candidate REZs that may have future energy generation and storage and their formal declaration, subject to a separate consultation process, is not critical to the project need.

7.5.2. Project costs and benefits

Submitter ID numbers

S-63222221, S-63119956, S-63252730, S-63252977, S-63252725, S-63250210, S-63250997

Summary of issues raised

Submitters raised concerns about whether environmental and social impacts have been factored into the consideration of overall project costs and benefits. One submitter noted that the EIS did not quantify the environmental and community impacts to allow the project benefits to be determined.

Response

In accordance with regulatory requirements, Transgrid is required to propose the most efficient option for consumers based on the capital cost of the solution, the ongoing operational costs, the market benefits, the expected reliability, and the costs associated with the impact on landowners, the community, and the environment. Aligned with this, social and environmental costs have been considered alongside financial costs throughout the development and assessment of the project.

The estimated costs of the environmental mitigation measures provided in the EIS are considered an integral component to the project and as a result have been captured in the project capital costs.

Technical Report 6 – Economic Impact Assessment of the EIS details the methodology used to assess positive and negative economic impacts during the construction and operation of the project. Since public exhibition of the EIS, an updated economic assessment has been carried out to assess any changes to economic impacts from the amended project (refer to Chapter 6 (Assessment of impacts) of the Amendment Report).

Submitter ID numbers

S-63065456, S-63119956, S-63219970, S-63250210, S-63274965, S-63250007, S-63250997, S-63253974

Summary of issues raised

Submitters raised concerns about the calculation of the project costs and benefits, including the uncertainty and continued relevance of the calculations given several assumptions. Specific comments included:

- the costs of HumeLink are blowing out and have a high degree of uncertainty
- need independent source of truth around the costs
- Transgrid claim undergrounding costs too much, however the project costs are increasing and revenue is likely to increase from the project
- increased project costs will affect its viability as costs will significantly exceed its benefits
- increased project costs and a likely negative net benefit should require Transgrid to advise the AER of the 'material change in circumstances' and seek a review/confirmation of its regulatory approval
- the RIT-T economic modelling and cost estimate for the EIS can no longer be relied upon due to changed circumstances including changes to the project design
- the latest project cost estimates, benefits, and net benefit should be provided
- the net benefit for the project reported by AEMO in the 2022 ISP is disputed because of oversimplified modelling, incorrect Step Change scenario assumptions, increased project costs, and externalities, such as bushfire risk, not being accounted for
- Transgrid's CEO's claims of more than \$2 of consumer benefit for every \$1 Transgrid spend on transmission lines seems false
- the key benefits of the project are not quantified in any way except for the number of jobs created and are assumed benefits with little long-term values placed on them
- Transgrid has already published changes to the project cost during development of the project
- further detail on how the net benefits of the project were determined are requested, particularly as the project capital cost has increased.

Response

Transgrid published the draft Contingent Project Application Stage 2 (CPA2) for the HumeLink project in December 2023, which outlines the estimated project costs and anticipated community benefits, for the nation-critical transmission project. CPA2 provides details on the specific costings to deliver the HumeLink project, and the significantly increased market benefits. On 19 January 2024 the AER formally requested that Transgrid provide additional information in relation to the CPA2 application. Transgrid published the updated analysis on the HumeLink website on 29 February 2024.

Under the National Electricity Rules (NER) a material change in circumstance assessment (MCC) is required if a project changes in terms of cost. The MCC tests if these project changes impact the ranking of the preferred option compared to the original assumptions made in the RIT-T process, which was completed for HumeLink in 2021.

The overall cost estimate of HumeLink has increased from \$3.27 billion in 2021 to \$4.88 billion (June 2023 dollars, excludes equity raising costs) (Transgrid, 2023h). These cost increases are driven by global demand, supply chain disruption and increased prices for raw materials and are commensurate with increases in major projects globally during this period. During this period, the market benefits also increased and as such the *Material change in circumstance assessment* (Transgrid, 2024b) found the preferred option for HumeLink remained unchanged. This means the increase in cost is not deemed a

material change in circumstance event as contemplated in the National Electricity Rules (NER or the Rules), that would change the identification of the preferred option in the 2021 RIT-T and may require re-application of the RIT-T.

The net market benefits associated with HumeLink have increased, from \$491 million (as stated in the PACR (Transgrid, 2021c)) to more than \$1 billion⁷ (Transgrid, 2024b). This significant increase in market benefits is primarily driven by:

- the latest AEMO information on timing of energy generation projects
- emissions targets and renewable energy policies changing the inputs and assessments for AEMO benefits modelling.

The net-benefit in the 2022 ISP was calculated by AEMO using their methodology and assumptions. Once finalised, AEMO's 2024 ISP is expected to take into account the updated costs of the Project as well as the updated costs and timings of other major developments in the NEM more widely, and the revised delivery timing for Snowy 2.0. The analysis in the draft 2024 ISP is expected to confirm that the Project continues to provide net benefits to the market and remains a key component of the ISP Optimal Development Path (ODP).

Submitter ID numbers

S-63219970, S-63146971

Summary of issues raised

Submitters raised concerns about the costs and benefits associated with connecting to renewable energy generators near the project. Specific comments included:

- Snowy 2.0 and other new renewable energy generators should adequately fund the project to avoid electricity consumers being required to fund the total cost
- connecting HumeLink to Rye Park Wind Farm and Jeremiah Wind Farm would not result in benefits, as they have existing 330 kV connections.

Response

HumeLink would reinforce stability and reliability in the transmission network and provide additional transmission capacity that would benefit the NEM as a whole, rather than just benefit specific projects. Customer connection projects are funded by the customer, such as the Snowy 2.0 Transmission Connection Project, which is funded by Snowy Hydro.

The project involves a telecommunications connection with the Rye Park 330 kV switching station to remove the need for an additional telecommunications hut in this section of the project footprint. However, no direct high-voltage transmission line connections to Rye Park Wind Farm or Jeremiah Wind Farm are proposed.

⁷ Reference to the updated net market benefits of over \$1 billion is from HumeLink's *Material change in circumstance assessment* (Transgrid, 2024b) provided at: <https://www.transgrid.com.au/media/q4snvri/humelink-material-change-circumstance-mcc-assessment-report-feb-24.pdf>

7.5.3. Strategic context

Submitter ID numbers

S-63277212, S-63119956, S-63274723

Summary of issues raised

Submitters raised concerns about the consideration of several strategic plans, agreements and policies in the development and assessment of the project. Specific comments included:

- the Intergovernmental Agreement on the Environment (IGAE), which sets out key principles for environmental policy in Australia, should be considered as well as the National Strategy for Ecologically Sustainable Development (NSES), National Greenhouse Strategy (NGS), the National Water Quality Management Strategy (NWQMS), the National Strategy for the Conservation of Australia's Biological Diversity, the National Forest Policy Statement and National Environment Protection Measures (NEPM)
- the EIS should provide consideration or mention how the project would impact every objective in the *Draft South East and Tablelands Regional Plan* (DPE, 2022g) and not just the ones quoted
- the project is inconsistent with the characteristics contributing to the Yass Valley's identity of 'maintaining sustainable communities while retaining the region's natural beauty and the protection of high quality agricultural land' as per the Yass Valley Council Strategic Planning Statement.

Response

Chapter 2 (Strategic context and project need) of the EIS and the various technical reports supporting the EIS provided detailed consideration a number of international, Commonwealth, State and local government plans, policies and guidelines. The strategic plans, agreements and policies identified by submitters have been reviewed, and consideration of how they relate to the project is provided below.

Intergovernmental Agreement on the Environment 1992

The IGAE is a statement of the relative roles and responsibilities of the three levels of government, Commonwealth, state and territory, and local. It provides a basis for negotiations between them so that a coordinated approach can be adopted on environmental issues. It is, therefore, not directly applicable to HumeLink.

It is noted that key objectives under its policy have been considered by HumeLink including the precautionary principle, intergenerational equity, conservation of biological diversity and ecological integrity, and Improved valuation, pricing and incentive mechanisms. For further details, refer to Section 27.7 of the EIS.

National Strategy for Ecologically Sustainable Development 1992

The NSES defines the goal of ESD as "development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends". It provides broad strategic directions and framework for governments to direct policy and decision-making.

While the EIS and Amendment Report do not directly reference the NSES, the principles of ESD (including, but not limited to, as defined in the EP&A Act, *Protection of the Environment Administration Act 1991* and EPBC Act) have been addressed in Chapter 24 (Sustainability) and Chapter 27 (Project justification and evaluation) of the EIS, Chapter 7 (Justification of amended project and conclusion) of the Amendment Report, and Chapter 8 (Updated project justification and conclusion) of this report.

National Greenhouse Strategy 1998

The NGS, which was based on the 1992 National Greenhouse Response Strategy, was designed as a strategy for governments to implement, either individually or through partnerships with stakeholders and the community. This is therefore a matter for consideration by NSW DCCEEW.

It is noted that a major focus of the NGS was to pursue efficient and sustainable energy use and supply. HumeLink will help achieve this by connecting renewable energy sources into the electricity network. Chapter 22 (Climate change and greenhouse gas) of the EIS details Transgrid's reporting commitments for HumeLink under the *National Greenhouse and Energy Reporting Act 2007*, including reporting Scope 3 emissions as part of a voluntary corporate commitment.

National Water Quality Management Strategy 2018

The NWQMS guidelines have been used to determine the existing condition of rivers and Water Quality Objectives for the project. For further details see *Technical Report 12 – Surface Water and Groundwater Impact Assessment* of the EIS.

National Strategy for the Conservation of Australia's Biological Diversity 1996

This strategy was developed in 1996 following Australia's ratification of the United Nations Convention on Biological Diversity. As stated in the Review of the National Strategy for Conservation of Australia's Biological Diversity (December 2006), the Strategy covered a period of ten years to 2006.

Australia meets its obligations as a signatory to the United Nations Convention on Biological Diversity through Australia's Strategy for Nature 2019-2030, which encompasses relevant Commonwealth and State legislation. Further detail on biodiversity legislation relevant to HumeLink can be found in *Technical Report 1 – Biodiversity Development Assessment Report* and Chapter 8 (Biodiversity) of the EIS.

National Forest Policy Statement 1992

Australian, state and territory governments are signatories to the National Forest Policy Statement 1992 and are therefore committed to the sustainable management of all Australian forests. This is therefore a matter for consideration by NSW DCCEEW.

National Environment Protection Measures 1999

The methodology in *Technical Report 10 – Phase 1 Contamination Assessment* of the EIS and *Technical Report 10 – Phase 1 Contamination Assessment Addendum* of the Amendment Report follows the framework for the assessment of site contamination outlined in the National Environment Protection Assessment of Site Contamination Measure 1999 (NEPM), as amended in 2013.

Mitigation measure SC2 provides that Areas of Environmental Concern identified as moderate risk or higher in *Technical Report 10 – Phase 1 Contamination Assessment* of the EIS and *Technical Report 10 – Phase 1 Contamination Assessment Addendum* of the Amendment Report will be subject a Detailed Site Investigation in line with the NEPM.

Draft South East and Tablelands Regional Plan 2041

The *Draft South East and Tablelands Regional Plan 2041* (DPE, 2022g) provides 25 objectives across five themes. The draft plan, along with the existing *Riverina Murray Regional Plan 2041* (DPE, 2023) and the *South East and Tablelands Regional Plan 2036* (DPE, 2017), were considered within Section 2.4 of the EIS as relevant regional plans for the project. The key objectives from the draft plan that supported the project's regional context included Objective 8: Plan for a net zero region by 2050 and Objective 12: Promote a year-round visitor economy. Consideration or mention of how the project would impact every objective in the *Draft South East and Tablelands Regional Plan* is not required as part of the SEARs. However, the project would support and/or be consistent with several of the draft plan's objectives and themes in addition to the ones discussed in the EIS.

Yass Valley Council Strategic Planning Statement

The Yass Valley Council Strategic Planning Statement includes the aim of 'maintaining sustainable communities while retaining the region's natural beauty and the protection of high quality agricultural land'. This aim would be managed through mitigation measures LV1, LV2, LV4 and LV6, revised mitigation measures LV3 and LV5 and new mitigation measures LV7 and LV8, as detailed in Appendix B (Updated mitigation measures).

Potential impacts on agricultural land uses during construction would include temporary removal of agricultural land, temporary movement restrictions and disruption to agricultural activities, increased biosecurity risks, inadvertent impacts to crops and pastures or farm infrastructure, and disturbance to sheep and cattle caused by noise and vehicle movements. However, while several potential impacts have been identified, they are expected to have a minor effect on agricultural productivity within the surrounding LGAs overall.

During operation, the land within transmission line easements, and immediately next to proposed infrastructure could continue to be used for some agricultural activities such as grazing. However, permanent transmission line infrastructure would result in some restrictions on agricultural operations, including restrictions on aerial agricultural operations as detailed in *Technical Report 14 – Aviation Impact Statement* of the EIS. Overall, the project's impact on agricultural production would be minimal during operation due to the small area affected relative to total size of agricultural enterprises within the surrounding LGAs. Impacts on agriculture and forestry production because of the overhead transmission line were quantified in *Technical Report 6 – Economic Impact Assessment* of the EIS.

Chapter 24 (Sustainability) of the EIS details the project specific *HumeLink Sustainability Strategy*. For further detail on climate change and greenhouse gas and waste mitigation strategies, refer to Appendix B (Updated mitigation measures).

7.6. Beyond the scope of the project

Submitter ID numbers

S-62401209, S-62494957, S-63266962, S-63250479, S-62910496, S-63541721, S-63246464, S-63219970, S-63226715, S-63274965, S-63250997, S-63194475, S-63226712, S-63229469, S-63233458, S-63196516, S-63277212

Summary of issues raised

Submitters raised a number of issues beyond the scope of the project. Specific comments included:

- concerns work has commenced at the Snowy Mountains Highway compound (C02)
- potential impacts associated with renewable energy projects and general objection to their further development
- potential effects of REZs and lack of consultation regarding the Tumut and Wagga REZ
- issues related to Transgrid's Board of Directors
- potential conflicts of interest of consultants engaged by Transgrid
- requests for the cost of damage to Transgrid's electrical network from 2019-2020 bushfires
- criticism about the management of weeds in the existing 330 kV transmission line easement near Bannaby
- requests for the State forests impacted by the project to be gazetted as national parks
- concerns about the rate of infrastructure development in regional NSW and Australia and the impacts on communities
- preference for nuclear energy
- costings for generators with different life and recycling costs should also be compared over the time period of the longest lasting equipment (ie nuclear generation) to confirm the project scope.
- there is a lack of current regulatory framework to prioritise incorporation of climate resilience measures.

Response

While these issues are outside the scope of this project, Transgrid has provided the following responses.

Following further construction planning and consultation with landowners and stakeholders, there have been changes to the number and location of construction ancillary facilities for the project. Subsequently, the Snowy Mountains Highway compound (C02) is no longer required. Transgrid notes the site proposed for the Snowy Mountains Highway compound (C02) was also the location for Snowy Valleys Council's new Gilmore Organics Processing Facility site, for which construction started in September 2023.

The proposed increase in investment towards renewable energy generation and storage opportunities is consistent with the broad strategies that have been developed by both the NSW and Australian governments in response to the increasing need to transition Australia's existing energy generation to a greater mix of low-emission renewable energy sources. This transition is being driven by the need to reduce greenhouse gas emissions and meet a global commitment to achieve net zero greenhouse gas emissions by the second half of this century.

While it is acknowledged that renewable energy projects can have varying degrees of impact on existing land and property uses (including agricultural land), each project is assessed based on its merits and its overall impacts. These impacts are then considered by the relevant planning/approval authority (primarily DPPI) prior to approval (or if the impacts are not considered appropriate, refusal).

The NSW State Government has a strategic role in developing the REZs, which are proposed to be connected through projects such as HumeLink. The NSW Government's *Electricity Strategy* (DPIE, 2019) and *Electricity Infrastructure Roadmap* (DPIE, 2020b) set out the plan to deliver the state's first five REZs in the South-West, Central-West Orana, New England, Hunter-Central Coast and Illawarra regions. Wagga Wagga and Tumut REZs are candidate REZs in the *2022 Integrated System Plan* and *draft 2024 Integrated System Plan*.

EnergyCo is responsible for leading the delivery of REZs in NSW. EnergyCo works with communities and collaborates with a range of NSW Government entities and other parties to develop REZs. Further information on how REZs are developed, and how communities are engaged and environmental concerns are considered can be found at: www.energyco.nsw.gov.au.

Comments related to Transgrid's Board of Directors do not relate directly to the project or its potential impacts.

Corrs Chambers Westgarth, an independent law firm, has been engaged by Transgrid to advise on legal matters associated with the project. Christine Covington is a partner of Corrs Chambers Westgarth which advises Transgrid on property and environmental matters concerning the project. Ms Covington is also the Deputy Chair of the Board of the NSW Biodiversity Conservation Trust and has disclosed this role to Transgrid.

Ms Covington has also disclosed her role as legal adviser to Transgrid to the Biodiversity Conservation Trust Board. As such, she is excluded from all Board discussions and correspondence concerning Transgrid and the Humelink Project and does not receive any Board papers related to Transgrid or the Humelink project.

Furthermore, the NSW Biodiversity Conservation Trust (BCT) has no role in the environmental assessment or decision-making on development proposals.

The damage to Transgrid's electrical network from the 2019-2020 bushfires is detailed in [Overview of 2019-20 Bushfire Damage to TransGrid's Network](#) (Transgrid, 2020b).

Following the 2019-2020 NSW bushfire events, and as part of the AER regulatory control period Transgrid submitted to the AER a cost pass through application seeking recovery of actual and expected costs. Transgrid's submission to the AER, which can be found on their website ([AER determination - TransGrid 2019-20 bushfire cost pass through](#)), discussed damage to parts of its network. These damages included impact to approximately 9 per cent of the transmission line route length and 2,781 transmission line structures.

On May 2021, the AER determined that a cost pass through was appropriate and met the National Electricity Rule requirements. The AER approved a pass through amount of \$49.8 million to be recovered between 2022 and 2025.

Additional information on the AERs decision can be found on their website: [AER determination - TransGrid 2019-20 bushfires cost pass through - May 2021 | Australian Energy Regulator \(AER\)](#).

Comments about the management of weeds in the existing 330 kV transmission line easement near Bannaby are outside the scope of the project. However, weed management within easements and maintenance of the existing 330 kV transmission line easement near Bannaby is guided by a number of Transgrid operational procedures and guidelines including:

- *Maintenance Plan – Transmission Line Assets* (Transgrid, 2021d)
- *Maintenance Plan – Easement and Access Tracks* (Transgrid, 2022d)
- *Environmental Handbook* (Transgrid, 2021e).

Gazetting the State forests impacted by the project as national parks would be a decision for FCNSW and NPWS and is considered outside the scope of the project. It is noted that Bago, Green Hills and Red Hills State Forests do have softwood plantations consisting of radiata pine, which would be of minimal conservation value. However, community involvement in establishing new parks is encouraged by NPWS with further information available here: [Community involvement in establishing new parks](#).

Comments about the rate of infrastructure development in regional NSW and Australia and a preference for nuclear energy do not relate directly to the project and are matters dealt with more broadly by the State and Commonwealth governments. However, the comments are acknowledged.

As HumeLink is an energy transmission and not generation project, issues related to energy generators are beyond the scope of the project.

Creation of regulatory frameworks in relation to climate resilience are beyond the scope of the project. A detailed summary of project specific climate resilience considerations is provided in Chapter 22 (Climate change and greenhouse gas) of the EIS.

8. Updated project justification and conclusion

This chapter provides an updated justification and evaluation of the project following the public exhibition process and a synthesis of the issues raised in the submissions received. Transgrid's response to these issues incorporates all relevant issues raised in submissions and the principles of ecologically sustainable development (ESD).

8.1. Summary of issues raised

Submissions from government agencies and public authorities, local councils, organisations and the community were received by the Planning Secretary of Department of Planning, Housing and Infrastructure (DPHI) (formerly Department of Planning and Environment (DPE)) and provided to Transgrid for consideration.

A total of 158 submissions from 150 submitters were received, comprising:

- 18 submissions from government agencies and public authorities
- seven submissions from five local councils and Canberra Region Joint Organisation
- 133 submissions from the community, including submissions from 12 organisations.

The 133 submissions from the community and organisations were received from 126 submitters. Of the 126 submitters, two submissions supported the project, 14 provided comments on the project, and 110 submissions objected to the project. In addition, Wagga Wagga City Council and Canberra Region Joint Organisation also objected to the project.

Community and organisation submissions mostly raised issues about the project's economic, environmental and social impacts (over 70 per cent of issues). The top specific issues included:

1. **land use and property**, of which the majority of issues raised were related to impacts on agricultural operations and productivity at a local and regional scale and how these impacts would be managed
2. **landscape character and visual amenity**, which primarily related to the operational impacts of the proposed transmission line and the methodology used for the assessment
3. **hazards and risks**, which are primarily related to the increased risk of bushfires and impacts to firefighting operations, and risks associated with electric and magnetic fields
4. **biodiversity**, of which the majority of issues were related to the magnitude of biodiversity impacts, eg the extent of clearing and impacts to threatened species and ecological communities, and the methodology used in the assessment
5. **undergrounding**, which related to the undergrounding of the proposed transmission line.

Chapter 3 (Analysis of submissions) provides a more detailed breakdown of these issues. Further discussion on community and organisation submissions is provided in Chapter 7 (Response to community and organisation submissions).

Submissions received from government agencies and public authorities generally related to the specific agency or public authority focus or their assets potentially being impacted by the project. Submissions from local councils and Canberra Region Joint Organisation raised several similar issues, including:

- concerns about the impact of construction vehicles and how local roads would be maintained
- concerns about potential landscape character and visual amenity impacts and how impacts would be managed for residents in their local government area (LGA)
- concerns about worker accommodation facilities, including a preference for facilities to be included in some LGAs
- the need for Transgrid to establish a Community Enhancement Fund for the project.

Further discussion on government agency, public authority and local council submissions is provided in Chapter 5 (Response to government agency and public authority submissions) and Chapter 6 (Response to local council submissions).

8.2. Updated mitigation measures

After considering the issues raised in the submissions and the proposed amendments and refinements to the project, the mitigation measures provided in the EIS have been revised to:

- provide additional measures to respond to issues raised in the submissions
- modify the wording in some instances so that the intent is clearer
- respond to the findings of the assessments undertaken for the Amendment Report.

Appendix B (Updated mitigation measures) provides the compilation of the mitigation measures. The new mitigation measures and additions to the mitigation measures included in the EIS are shown in **bold green coloured** text, and where a measure or text has been deleted, it appears as ~~strike through~~ text.

8.3. Updated project justification

8.3.1. Strategic context and statutory considerations

HumeLink is a key component of Australia's energy transition to low-emission energy generation. It would provide additional capacity for new generation, primarily renewable wind and solar generation, in southern NSW and improve wholesale market competition. HumeLink would, therefore improve access to affordable electricity and lower electricity costs in the longer term.

Chapter 2 (Strategic context and project need) of the EIS outlined the strategic planning response to the identified challenges facing the existing energy market, including consideration of HumeLink against both NSW and Commonwealth government policy contexts such as its alignment with the:

- *NSW Transmission Infrastructure Strategy* (DPIE, 2018)
- *NSW Electricity Strategy* (DPIE, 2019)
- *NSW Government's Net-Zero Plan Stage 1: 2020–2030* (DPIE, 2020d)
- *2022 Integrated System Plan* (2022 ISP, Australian Energy Market Operator (AEMO), 2022)
- Commonwealth government's Climate change policy.

The 2022 ISP identified the latest delivery date for HumeLink as July 2026 (AEMO, 2022). Since the EIS public exhibition, the *draft 2024 Integrated System Plan* has been released, which provided updated timing and staging, including targeting the northern circuit of HumeLink (Wagga Wagga to Bannaby) to be

operational by July 2026 and the southern circuit of HumeLink (connecting to Maragle) is targeted to be operational by December 2026.

Several issues were raised in community submissions regarding the consideration of Commonwealth, State and local government strategic plans, agreements and policies in developing and assessing the project. These concerns have been responded to in Section 7.5.3.

Overall, with consideration of issues raised by the community and the proposed amendments and refinements identified in Chapter 4 (Actions taken since public exhibition), the amended project would remain consistent with the strategic context described in the EIS.

This Submissions Report has considered and addressed, where appropriate, the issues raised by government agencies and public authorities, local councils, organisations and the community during the public exhibition of the EIS, in accordance with section 5.17(6)(a) of the *Environmental Planning and Assessment Act 1979* (EP&A Act). Organisation and community submissions raised several issues regarding the EP&A Act approval process and compliance with various statutory requirements. These concerns have been responded to in Sections 7.3.1 and 7.3.3. However, the overall statutory context described in Chapter 5 (Statutory context) of the EIS remains consistent for the amended project.

Further consideration of the strategic and statutory context of the amended project is provided in Chapter 2 (Strategic context) and Chapter 4 (Statutory context) of the Amendment Report.

8.3.2. Economic, environmental and social considerations

The environmental impacts of the EIS project were summarised in Chapters 8 to 25 of the EIS, including a comprehensive analysis of the key biophysical, social and economic impacts and appropriate measures to avoid and/or minimise impacts.

More than 70 per cent of the issues raised in community and organisation submissions on the EIS were about the project's economic, environmental and social impacts. Economic, environmental and social issues were also raised by government agencies, public authorities, and local councils. However, the issues raised by government agencies, public authorities, and local councils were largely based on their focus area or assets/interests. Consideration of the economic, environmental and social issues is provided in Chapter 5 (Response to government agency and public authority submissions), Chapter 6 (Response to local council submissions), and Section 7.4 of this report.

The proposed amendments and refinements identified in Chapter 4 (Actions taken since public exhibition) have, in some part, been developed to respond to the economic, environmental and social concerns raised in submissions. Assessment of the potential impacts of the proposed amendments and refinements and associated engagement carried out with relevant local, State and Commonwealth government authorities, stakeholders, community groups, and directly impacted landowners is detailed in the Amendment Report.

Appendix B (Updated mitigation measures) lists the mitigation measures applicable to the amended project's potential economic, environmental and social impacts that will be implemented during construction and operation. Implementing the mitigation measures, including the revised and new measures, would assist in managing the potential impacts.

Overall, the types of potential impacts described for the EIS would remain consistent for the amended project. However, the magnitude and scale of some impacts have changed. The key adverse residual impacts described in the EIS associated with biodiversity, Aboriginal heritage, land use and property, and visual amenity would also remain for the amended project.

8.3.3. Consideration of principles of ecologically sustainable development

Biophysical, economic and social issues raised in submissions have been responded to in the context of the principles of ESD. The EP&A Act adopts the definition of ESD contained in section 6(2) of the *Protection of the Environment Administration Act 1991* while the principles of ESD are also set out in clause 3A of the EPBC Act.

For example, the responses to issues raised in submissions are consistent with accepted scientific and assessment methodologies or good practice and have taken into account relevant statutory and agency requirements and have been informed by consultation with stakeholders including government agencies and the community. The responses have applied a conservative approach with regard to construction and operational arrangements.

A summary of how the amended project has considered the principles of ESD is provided in Table 8-1, with further detail included in Chapter 7 (Justification of amended project and conclusion) of the Amendment Report.

Table 8-1 Summary of how the principles of ESD have been applied to the amended project

ESD principle	Summary
Precautionary principle	<ul style="list-style-type: none"> The environmental assessments for the amended project have been prepared taking into account the relevant statutory and agency requirements and are informed by consultation with stakeholders. The assessments also apply a conservative approach with regard to construction and operational arrangements of the amended project. The amended project has been developed to avoid impacts where possible and has taken into consideration the feedback received in submissions on the EIS project.
Intergenerational equity	<ul style="list-style-type: none"> The amended project would provide a more secure electricity supply and facilitate the longer-term transition to new low emission energy generation sources. This would increase economic activity, provide regional job opportunities and assist in unlocking large-scale renewable energy generation. The amended project has also been designed to meet the needs of both current and future generations.
Conservation of biological diversity and ecological integrity	<ul style="list-style-type: none"> The field investigations and assessments for the amended project have informed the strategies to avoid and minimise potential impacts. Where potential impacts cannot be avoided, mitigation measures would be implemented to reduce the impact as far as possible.
Improved valuation, pricing and incentive mechanisms	<ul style="list-style-type: none"> The amended project has been designed to minimise adverse environmental and community impacts through route options selection and the design process that includes the consideration of environmental factors. Environmental mitigation measures have also been identified and/or updated, where appropriate, to further minimise impacts. A Biodiversity Offset Strategy has also been prepared to manage the residual biodiversity impacts of the amended project. Biodiversity offset credit costs have been calculated as a way to value and price residual biodiversity impacts.

8.3.4. Uncertainties and resolution

The key uncertainties for the EIS project were described in Chapter 27 (Project justification and evaluation) of the EIS. The uncertainties related to the level of design and information used to inform the assessment included in the EIS.

Consideration of information provided in government agency submissions and the development of responses has assisted in managing some of the uncertainties identified in the assessments for biodiversity and Aboriginal heritage. The development of the proposed amendments and refinements informed by the engagement of construction contractors and further surveys and community and stakeholder engagement carried out since the public exhibition of the EIS has also assisted in managing the uncertainties identified in the EIS.

The design and construction methodology will continue to be refined and confirmed as detailed design and construction planning is finalised. During this stage, surveys of previously inaccessible land will continue and relevant mitigation measures, including the revised and new measures, will be implemented to avoid and minimise potential environmental impacts and further manage project uncertainties.

8.4. Evaluation and conclusion

HumeLink is a priority project for AEMO and the Commonwealth and NSW governments. HumeLink would deliver a more reliable and more sustainable grid by increasing the amount of renewable energy that can be delivered across the national electricity grid, helping to transition Australia to a low carbon future. The net market benefits associated with the project are estimated at more than \$1 billion (Transgrid, 2024b). Not proceeding with HumeLink would reduce the security of the electricity supply in NSW, particularly as coal-fired generators are retired. It would also discourage energy generation and storage investment within the nearby declared and candidate Renewable Energy Zones.

The EIS prepared for the project was placed on public exhibition to provide government agencies and public authorities, local councils, organisations and the community with an opportunity to respond to the project. All submissions received by DPHI regarding the project have been reviewed, considered and responded to in this report.

Since the public exhibition of the EIS, proposed amendments and refinements have been developed and included in the amended project. This is a result of consideration of the issues raised in submissions, feedback received from stakeholders prior to and during the public exhibition of the EIS, and ongoing design and construction methodology development by the construction contractors. Additionally, revised and new mitigation measures were developed in response to issues raised in submissions and consideration of the proposed amendments and refinements to the project. The amended project, including the revised and new mitigation measures provided in Appendix B of this report, would facilitate further avoidance, minimisation or management of potential environmental and social impacts.

8.5. Next steps

The EIS, this Submissions Report, and the Amendment Report will be reviewed by DPHI, on behalf of the Minister for Planning and Public Spaces. Once DPHI has completed their assessment, a draft assessment report will be prepared for the Planning Secretary of DPHI, which may include recommended conditions of approval. A final assessment report will then be provided to the Minister for Planning and Public Spaces, who will decide whether or not to approve the amended project.

A copy of this Submissions Report and the Amendment Report will be published on DPHI's website following the lodgement of the reports to DPHI for assessment. Following the assessment, the Minister for Planning and Public Spaces' notice of determination and DPHI's assessment report will also be published on DPHI's website, as well as any conditions of approval (should the amended project be approved). In accordance with the Assessment Bilateral Agreement (as amended in 2020), DPHI will also provide the Commonwealth Minister for the Environment and Water with its assessment report and NSW conditions of approval, who will also decide on whether the amended project should be approved and, if so, what Commonwealth conditions (if any) should be attached. A copy of the Commonwealth approval will be published on the EPBC Act Public Portal.

If the amended project is approved, Transgrid will continue to consult with community members, government agencies and other stakeholders during the further design development, construction, and operational phases of the amended project.

Engagement during the construction and operation stages remains consistent with that described in Chapter 6 (Engagement) of the EIS.

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Appendices



HumeLink

Appendix A Submissions register



Appendix A Submissions register

This submissions register has been prepared in accordance with the Department of Planning, Housing and Infrastructure (DPHI)'s *State significant infrastructure guidelines - preparing a submissions report* (DPE, 2022a) to help submitters find the response to the issues they raised.

Submitter details were obtained via the DPHI Major Projects Portal on 9 November 2023. The submitter ID is a unique ID number assigned to each submitter by DPHI. Submitters who elected to remain anonymous when making their submission to DPHI are listed as 'withheld', and their names were not provided to Transgrid. All other names have been published based on the information provided to Transgrid by DPHI. Submitters who elected to remain anonymous should contact DPHI to request confirmation of their submitter ID.

Submitter type	Submitter ID*	Name	Section where issues addressed in submissions report
Government agency	N/A	Airservices Australia	5.1
Government agency	N/A	Australian Rail Track Corporation	5.2
Public authority	N/A	Civil Aviation Safety Authority	5.3
Government agency	N/A	Department of Planning and Environment – Biodiversity, Conservation and Science Directorate	5.4
Government agency	N/A	Department of Planning and Environment – Crown Lands	5.5
Government agency	N/A	Department of Planning and Environment – Water	5.6
Government agency	N/A	Department of Primary Industries – Agriculture	5.7
Government agency	N/A	Department of Primary Industries – Fisheries	5.8
Government agency	N/A	Fire and Rescue NSW	5.9
Public authority	N/A	Forestry Corporation of NSW	5.10
Government agency	N/A	Heritage Council of NSW	5.11
Government agency	N/A	Heritage NSW	5.12
Government agency	N/A	Mining, Exploration and Geoscience NSW	5.13
Government agency	N/A	NSW Environment Protection Authority	5.14
Government agency	N/A	NSW Rural Fire Service	5.15
Government agency	N/A	NSW Telco Authority	5.16

Submitter type	Submitter ID*	Name	Section where issues addressed in submissions report
Government agency	N/A	Transport for NSW	5.17
Government agency	N/A	Water NSW	5.16
Local council	N/A	Goulburn Mulwaree Council	6.1
Local council	N/A	Snowy Valleys Council	6.2
Local council	N/A	Upper Lachlan Shire Council	6.3
Local council	N/A	Wagga Wagga City Council	6.4
Local council	N/A	Yass Valley Council	6.5
Local council	N/A	Canberra Region Joint Organisation	6.6
Community	S-61852720	Withheld	7.3.1, 7.3.2, 7.4.4.6, 7.4.7.1
Community	S-62084706	Sartaj Hans	7.3.1, 7.4.4.6, 7.4.7.1, 7.4.13.2
Community	S-62401209	Leroy Currie	7.2.1, 7.4.1.2, 7.4.4.3, 7.4.5.2, 7.4.6.2, 7.4.7.4, 7.6
Community	S-62406709	Jan Werner	7.3.4.1, 7.4.1.2, 7.4.4.3, 7.4.6.1, 7.4.6.4, 7.4.8.4, 7.4.12.2
Community	S-63131973	Malcolm Ritter	7.2.1, 7.4.1.2, 7.4.7.4, 7.4.12.2, 7.4.12.3, 7.5.1
Community	S-63151711	Emma Browman	7.4.4.3, 7.4.6.4, 7.4.12.2
Community	S-62489962	James Beale	7.2.2, 7.4.4.6
Organisation	S-63150957	IAL Moloney	7.3.2, 7.4.4.4, 7.4.6.5, 7.4.7.1, 7.4.8.1
Community	S-63544467	Edward Thompson	7.4.4.4, 7.4.7.4, 7.4.8.4
Community	S-63179462	Alison Reece	7.2.1, 7.4.7.4, 7.4.13.1, 7.4.13.2, 7.4.13.3, 7.4.15.1
Community	S-63189959	Robert Burgess	7.2.1, 7.4.7.4
Community	S-63222221	Withheld	7.2.1, 7.4.1.1, 7.4.4.3, 7.4.10.3, 7.4.12.2, 7.5.2
Community	S-63249463	Jan Duckett	7.2.1, 7.3.4.1, 7.4.12.2, 7.4.17.1
Community	S-62653707	Withheld	7.2.1, 7.4.6.3, 7.4.7.4
Community	S-62664727	Katie Collins	7.4.13.2
Community	S-62674956	Withheld	7.4.4.4, 7.4.4.6, 7.4.6.3, 7.4.8.4, 7.4.8.5
Community	S-62494957	John Wood	7.2.3, 7.3.3, 7.3.4.1, 7.3.4.2, 7.4.1.1, 7.4.1.5, 7.4.4.3, 7.4.4.6, 7.4.6.1, 7.4.7.1, 7.4.7.5, 7.4.8.4, 7.4.10.1, 7.4.10.4, 7.4.11.1, 7.4.12.2, 7.4.12.3, 7.4.13.2, 7.4.14.2, 7.6
Community	S-62510706	Elizabeth Werner	7.4.1.2, 7.4.6.4, 7.4.7.4, 7.4.8.4, 7.4.12.2
Community	S-63252956	Kerrie Plum	7.3.4.1, 7.4.1.2, 7.4.2.2, 7.4.4.3, 7.4.4.4, 7.4.7.1, 7.4.12.2, 7.4.12.3
Community	S-63543964	Troy Meller	7.4.1.2, 7.4.4.3, 7.4.6.4, 7.4.7.4, 7.4.8.4, 7.4.12.2
Community	S-63274709	Russell Erwin	7.2.1, 7.4.6.3
Community	S-63274706	Geoffery and Catherine Garner	7.2.1, 7.3.2, 7.4.4.3, 7.4.4.4, 7.4.6.3, 7.4.6.4, 7.4.6.5, 7.4.7.4, 7.4.12.2
Community	S-63252732	Samuel Lucas	7.2.1, 7.4.4.3, 7.4.7.4, 7.4.12.2
Community	S-63252749	William Reynolds	7.2.1, 7.4.1.2, 7.4.4.3, 7.4.6.3, 7.4.12.2
Community	S-63266979	Jan McGruer	7.2.1, 7.4.6.2, 7.4.12.2

Submitter type	Submitter ID*	Name	Section where issues addressed in submissions report
Community	S-63266987	Tom Williams	7.3.2, 7.4.1.2, 7.4.4.3, 7.4.6.3, 7.4.6.4, 7.4.7.4
Community	S-63270717	Charlie Williams	7.2.1, 7.2.2, 7.4.4.6, 7.4.7.4, 7.4.12.2, 7.4.13.3
Community	S-63273461	Janice Lucas	7.2.1, 7.4.1.2, 7.4.1.3, 7.4.9.3
Community	S-63271464	Alex Crowe	7.4.4.3, 7.4.7.4, 7.4.9.2, 7.4.12.2, 7.4.12.3, 7.4.17.1
Organisation	S-62663503	Kyeamba Valley Landcare Group	7.4.4.1, 7.4.1.2, 7.4.1.3, 7.4.1.5, 7.4.4.3, 7.4.4.6, 7.4.7.5, 7.4.9.2, 7.4.10.3, 7.14.12.2
Community	S-62688709	Sam Gordon	7.2.1, 7.3.4.3, 7.4.4.3, 7.4.4.5, 7.4.4.6, 7.4.6.3, 7.4.7.4
Community	S-63267457	Jan Joseland	7.2.1, 7.3.4.1, 7.4.12.3
Community	S-63267461	Janet Gray	7.4.1.2, 7.4.4.3, 7.4.6.4, 7.4.7.4, 7.4.8.4, 7.4.12.2
Community	S-63269210	Zehdi Ferkh	7.2.1, 7.3.4.3, 7.4.1.2, 7.4.4.3, 7.4.6.4, 7.4.7.4, 7.4.8.4, 7.4.12.2
Community	S-63269216	Adele Emery	7.2.1, 7.4.4.3, 7.4.4.6, 7.4.6.3, 7.4.6.4, 7.4.7.4, 7.4.8.4, 7.4.12.2
Community	S-63266962	Matthew Allen	7.6
Community	S-63264715	Ann Cochrane	7.4.1.2, 7.4.4.3, 7.4.6.4, 7.4.7.4, 7.4.12.2, 7.4.12.3
Community	S-63253980	Kevin Schofield	7.4.12.2
Community	S-63266958	John Allan	7.2.3, 7.3.4.2, 7.4.7.1, 7.4.8.2
Community	S-62774492	Jessica Wiseman	7.2.1, 7.4.1.2, 7.4.4.3, 7.4.7.4, 7.4.8.4, 7.4.12.2, 7.4.12.3
Community	S-63236736	Anthony Webb	7.2.1, 7.3.4.1, 7.4.4.3, 7.4.7.4, 7.4.10.3, 7.4.12.2
Community	S-63236479	Withheld	7.4.4.3, 7.4.4.4, 7.4.6.5, 7.4.7.4, 7.4.8.4, 7.4.12.2, 7.4.12.3
Community	S-63195227	Withheld	7.4.4.3, 7.4.4.4, 7.4.7.4, 7.4.12.2
Community	S-63105473	Withheld	7.2.1, 7.4.7.4, 7.4.8.4, 7.4.12.2
Community	S-62866208	Stanley Silverwood	7.1.5, 7.2.2, 7.4.1.2, 7.4.12.3
Community	S-63250479	William Kingwill	7.3.2, 7.3.4.3, 7.4.1.5, 7.4.4.1, 7.4.8.1, 7.4.12.3, 7.6
Community	S-62870206	Michelle Brown	7.4.1.2, 7.4.4.3, 7.4.4.6, 7.4.7.4, 7.4.12.3, 7.4.17.1, 7.5.1
Community	S-63065456	Peter Rose	7.2.1, 7.2.2, 7.3.4.1, 7.3.4.3, 7.4.1.1, 7.4.1.2, 7.4.1.3, 7.4.3.3, 7.4.4.3, 7.4.4.4, 7.4.6.3, 7.4.6.4, 7.4.6.6, 7.4.7.4, 7.4.9.2, 7.4.10.5, 7.5.1, 7.5.2
Community	S-63269212	Juliet Lockhart	7.4.4.3, 7.4.6.3, 7.4.7.4, 7.4.12.1, 7.4.12.2
Community	S-63229475	Michael Kingwill	7.2.1, 7.3.2, 7.3.4.3, 7.4.4.3, 7.4.4.4, 7.4.7.4, 7.4.8.4, 7.4.12.2, 7.4.12.3
Community	S-63190220	Jason Harrop	7.4.12.2, 7.4.13.1, 7.4.13.2
Community	S-63222219	Ellen Hannigan	7.3.2, 7.3.4.1, 7.4.4.3, 7.4.4.4, 7.4.12.2, 7.4.12.3
Community	S-62977986	Peter Lawson	7.2.1, 7.3.2, 7.4.1.1, 7.4.1.2, 7.4.1.3, 7.4.1.5, 7.4.4.3, 7.4.4.4, 7.4.7.1, 7.4.7.5, 7.4.8.1, 7.4.12.2
Community	S-63194231	Simon Bartlett	7.1.5, 7.2.1, 7.2.2, 7.4.18.1
Community	S-63190238	Robin Quilty	7.3.2, 7.4.4.3, 7.4.4.5, 7.4.5.2, 7.4.7.1, 7.4.7.4, 7.4.7.5, 7.4.8.1, 7.4.8.4, 7.4.8.5, 7.4.9.2, 7.4.9.3, 7.4.10.2, 7.4.10.3, 7.4.12.2

Submitter type	Submitter ID*	Name	Section where issues addressed in submissions report
Organisation	S-63277212	Energy Grid Alliance	7.1.5, 7.2.1, 7.2.2, 7.3.3, 7.4.1.2, 7.4.12.2, 7.4.15.1, 7.5.1, 7.5.3, 7.6
Community	S-63119956	Wendy Tuckerman MP	7.2.1, 7.2.2, 7.3.4.1, 7.4.1.2, 7.4.1.3, 7.4.4.1, 7.4.4.3, 7.4.4.6, 7.4.5.2, 7.4.6.4, 7.4.7.4, 7.4.12.2, 7.4.15.1, 7.5.1, 7.5.2, 7.5.3
Community	S-62910496	Louise Sinca	7.2.1, 7.3.1, 7.6, 7.3.3, 7.4.1.1, 7.4.1.2, 7.4.1.5, 7.4.4.3, 7.4.4.4, 7.4.6.4, 7.4.7.1, 7.4.7.5, 7.4.8.4, 7.4.9.3, 7.4.10.2, 7.4.10.3, 7.4.10.5, 7.4.11.1, 7.4.12.2, 7.4.12.3, 7.4.12.4, 7.4.14.3
Community	S-63075710	John Mendl	7.2.1, 7.4.1.2, 7.4.2.1, 7.4.3.3, 7.4.4.3, 7.4.7.4, 7.4.12.2
Community	S-62999456	Shirley Morgan	7.2.1, 7.4.4.3, 7.4.7.4, 7.4.12.1
Community	S-63058234	John Terrence Bourne	7.4.7.4
Community	S-63121737	Geoff Hooper	7.4.12.3
Community	S-63125716	Johanne Sheperd	7.2.1, 7.4.1.2, 7.4.7.4, 7.4.12.2, 7.4.15.1
Community	S-63140711	Peter Brunskill	7.4.4.3, 7.4.7.4, 7.4.12.2
Organisation	S-63194462	Big Springs Rural Fire Service	7.1.4, 7.2.1, 7.2.2, 7.4.4.3, 7.4.7.5, 7.4.10.3, 7.4.12.2
Community	S-62731707	David Falepau	7.2.1, 7.2.2, 7.2.3, 7.3.1, 7.3.4.2, 7.4.4.1, 7.4.4.6, 7.4.6.2, 7.4.7.1, 7.4.7.3, 7.4.7.4, 7.4.7.5
Organisation	S-63249978	Business Snowy Valleys	7.3.1, 7.4.5.1, 7.4.5.2
Community	S-62904959	Withheld	7.2.1, 7.2.3, 7.4.1.2, 7.4.2.1, 7.4.3.3, 7.4.4.3, 7.4.4.4, 7.4.5.2, 7.4.7.4, 7.4.10.3, 7.4.12.2
Community	S-63125734	Withheld	7.2.1, 7.2.2, 7.2.3, 7.3.4.1, 7.4.1.1, 7.4.1.2, 7.4.2.1, 7.4.3.3, 7.4.4.3, 7.4.4.4, 7.4.4.5, 7.4.5.2, 7.4.6.3, 7.4.10.3, 7.4.12.2
Community	S-63271456	Jeff Hudson	7.1.3, 7.2.1, 7.4.4.3, 7.4.7.4, 7.4.12.2
Community	S-63541721	Glenn Fitzpatrick	7.2.1, 7.4.7.4, 7.4.12.2, 7.5.1, 7.6
Community	S-63114266	Clare Martin	7.2.1
Community	S-63250509	Withheld	7.4.6.3, 7.4.12.2
Community	S-63146987	Peter Barratt	7.2.1, 7.4.1.2, 7.4.4.3, 7.4.4.4, 7.4.4.5, 7.4.6.3, 7.4.6.4, 7.4.7.4, 7.4.9.2, 7.4.12.2, 7.4.13.2
Community	S-63252730	Elizabeth McGrath	7.2.1, 7.3.2, 7.3.4.1, 7.4.1.2, 7.4.4.3, 7.4.4.6, 7.4.7.4, 7.4.8.1, 7.4.8.4, 7.4.12.2, 7.5.2
Community	S-63266956	Ben and Tina Heij	7.2.1, 7.3.4.3, 7.4.1.2, 7.4.6.4, 7.4.8.4, 7.4.12.2, 7.4.15.1
Community	S-63246464	John Moore	7.1.6, 7.4.1.4, 7.4.4.3, 7.4.7.4, 7.4.9.2, 7.6
Organisation	S-63104960	Harissa Pty Ltd	7.3.4.1, 7.4.4.5, 7.4.6.3, 7.4.6.6, 7.4.7.4, 7.4.8.4, 7.4.12.2
Community	S-63112219	Geoffrey Cook	7.4.14.3
Organisation	S-63219970	National Parks Association of NSW	7.1.2, 7.1.5, 7.2.1, 7.2.2, 7.3.2, 7.4.1.5, 7.4.4.5, 7.4.7.4, 7.4.15.1, 7.5.1, 7.5.2, 7.6
Community	S-63252977	Amy Wyer	7.2.1, 7.4.1.2, 7.4.4.3, 7.4.6.3, 7.4.7.4, 7.4.8.3, 7.4.8.4, 7.4.8.5, 7.4.12.2, 7.4.13.2, 7.4.14.2, 7.5.2

Submitter type	Submitter ID*	Name	Section where issues addressed in submissions report
Community	S-63252725	Greg McGrath	7.2.1, 7.3.4.1, 7.3.4.3, 7.4.6.3, 7.4.7.1, 7.4.7.4, 7.4.8.4, 7.4.8.5, 7.4.12.2, 7.4.14.2, 7.5.2
Community	S-63264724	Thomas Hughes	7.2.1, 7.4.1.2, 7.4.4.3, 7.4.4.4, 7.4.6.4, 7.4.12.2, 7.4.12.3
Community	S-63269206	Henry Wright	7.2.1, 7.4.1.2, 7.4.4.3, 7.4.4.4, 7.4.6.4, 7.4.7.4, 7.4.12.2, 7.4.12.3
Community	S-63183709	Withheld	7.2.1, 7.2.3, 7.3.2, 7.3.4.3, 7.4.1.2, 7.4.2.1, 7.4.3.3, 7.4.4.3, 7.4.4.4, 7.4.6.3, 7.4.7.4, 7.4.8.3, 7.4.12.2, 7.4.15.1
Community	S-63273474	Shana Nerenberg	7.2.1, 7.3.1, 7.4.1.1, 7.4.1.2, 7.4.1.5
Community	S-63125730	Dr Joe McGirr MP	7.2.1, 7.4.1.2, 7.4.1.5, 7.4.4.3, 7.4.4.6, 7.4.6.3, 7.4.6.4, 7.4.7.4, 7.4.7.5, 7.4.8.3, 7.4.8.5, 7.4.9.2, 7.4.10.3, 7.4.11.1, 7.4.12.2, 7.4.15.1
Organisation	S-63241956	APA Group	7.4.4.2, 7.4.4.6
Organisation	S-63226715	Softwoods Working Group	7.2.1, 7.2.2, 7.3.2, 7.3.3, 7.4.4.5, 7.4.5.1, 7.4.5.2, 7.4.12.2, 7.6
Community	S-63190218	Withheld	7.1.3, 7.2.1, 7.4.1.2, 7.4.4.3, 7.4.4.6, 7.4.5.2, 7.4.6.3, 7.4.6.4, 7.4.7.4, 7.4.8.4, 7.4.12.2, 7.4.12.3
Community	S-63253974	Andrew Purcell	7.1.5, 7.3.4.1, 7.3.4.3, 7.4.1.2, 7.4.4.3, 7.4.6.2, 7.4.6.3, 7.4.9.2, 7.4.10.3, 7.4.12.2, 7.4.16.2, 7.4.17.1, 7.5.2
Community	S-63287206	W. Johnson	7.3.2, 7.3.4.3, 7.4.1.2, 7.4.4.3, 7.4.7.4, 7.4.8.5, 7.4.12.2, 7.4.15.1
Community	S-62923210	Withheld	7.2.1, 7.4.1.2, 7.4.4.3, 7.4.4.5, 7.4.6.6, 7.4.12.2, 7.4.15.1
Community	S-62963726	Rosemary Miller	7.1.5, 7.2.1, 7.4.1.2, 7.4.4.3, 7.4.4.6, 7.4.5.2, 7.4.6.3, 7.4.7.4, 7.4.12.2, 7.4.12.3, 7.4.18.2, 7.5.1
Community	S-62976708	Douglas and Berinde Rand	7.1.3, 7.2.1, 7.4.4.3, 7.4.4.4, 7.4.5.2, 7.4.6.3, 7.4.7.4, 7.4.9.2, 7.4.12.4
Community	S-63146971	Rachael Purcell	7.2.2, 7.3.1, 7.3.4.1, 7.3.4.3, 7.4.1.1, 7.4.1.2, 7.4.1.5, 7.4.4.1, 7.4.4.3, 7.4.4.4, 7.4.4.6, 7.4.6.1, 7.4.6.2, 7.4.6.3, 7.4.7.1, 7.4.7.4, 7.4.7.5, 7.4.8.4, 7.4.8.5, 7.4.12.2, 7.4.12.3, 7.5.1, 7.5.2
Organisation	S-63250210	HumeLink Alliance Incorporated	7.1.2, 7.1.5, 7.2.1, 7.2.2, 7.3.2, 7.3.3, 7.3.4.1, 7.3.4.3, 7.4.1.2, 7.4.4.1, 7.4.4.3, 7.4.4.6, 7.4.5.1, 7.4.5.2, 7.4.6.2, 7.4.6.3, 7.4.6.4, 7.4.7.1, 7.4.7.2, 7.4.7.4, 7.4.7.5, 7.4.8.1, 7.4.8.4, 7.4.8.5, 7.4.12.2, 7.4.18.2, 7.5.1, 7.5.2
Community	S-63250970	Bethan David	7.2.1, 7.2.3, 7.3.2, 7.3.4.1, 7.4.1.2, 7.4.1.3, 7.4.2.2, 7.4.3.3, 7.4.4.3, 7.4.4.4, 7.4.5.2, 7.4.6.2, 7.4.6.3, 7.4.7.4, 7.4.12.2
Organisation	S-63250980	Orchid Society of Canberra Conservation Group	7.4.1.1, 7.4.1.5
Community	S-63190238	Robin Quilty	7.2.1, 7.3.2, 7.4.4.3, 7.4.4.5, 7.4.5.2, 7.4.7.1, 7.4.7.4, 7.4.7.5, 7.4.8.1, 7.4.8.4, 7.4.8.5, 7.4.9.2, 7.4.9.3, 7.4.10.2, 7.4.10.3, 7.4.12.2
Organisation	S-63249498	Reiland Angus	7.4.1.2, 7.4.2.1, 7.4.3.2, 7.4.4.3, 7.4.4.4, 7.4.6.3, 7.4.7.4, 7.4.8.4, 7.4.9.3, 7.4.12.2, 7.4.12.3

Submitter type	Submitter ID*	Name	Section where issues addressed in submissions report
Community	S-63148207	Catherine Kelly	7.2.1, 7.4.4.3, 7.4.4.6, 7.4.7.1, 7.4.8.1, 7.4.8.4, 7.4.12.2, 7.4.12.3
Community	S-63270709	John Emery	7.2.1, 7.4.4.3, 7.4.12.2
Community	S-63274965	Withheld	7.3.3, 7.3.4.1, 7.3.4.3, 7.4.1.2, 7.4.4.3, 7.4.5.2, 7.4.6.3, 7.4.7.4, 7.4.9.2, 7.4.10.3, 7.4.12.2, 7.4.12.3, 7.5.1, 7.5.2, 7.6
Community	S-63249981	Roger McLennan	7.2.1, 7.3.2, 7.3.4.1, 7.4.4.3, 7.4.4.4, 7.4.4.6, 7.4.6.3, 7.4.6.4, 7.4.7.5, 7.4.8.3, 7.4.8.4, 7.4.8.5, 7.4.12.2, 7.4.13.2
Community	S-63250007	Ian Robson	7.2.1, 7.3.2, 7.3.4.1, 7.3.4.3, 7.4.4.2, 7.4.12.2, 7.5.1, 7.5.2
Community	S-63076708	Ross Smith	7.2.1, 7.2.2, 7.3.2, 7.4.1.2, 7.4.4.3, 7.4.4.6, 7.4.6.4, 7.4.7.1, 7.4.12.1, 7.4.12.2, 7.4.12.3, 7.4.12.4, 7.4.13.2, 7.4.16.1, 7.4.16.2, 7.4.17.1, 7.4.18.1
Community	S-63250997	Rebecca Tobin	7.1.3, 7.2.1, 7.2.2, 7.3.2, 7.3.4.1, 7.3.4.2, 7.3.4.3, 7.4.1.1, 7.4.1.2, 7.4.2.1, 7.4.3.2, 7.4.3.3, 7.4.4.1, 7.4.4.3, 7.4.5.2, 7.4.6.1, 7.4.6.3, 7.4.6.4, 7.4.7.1, 7.4.7.4, 7.4.7.5, 7.4.8.4, 7.4.8.5, 7.4.9.2, 7.4.12.2, 7.4.12.3, 7.5.1, 7.5.2, 7.6
Community	S-63252728	Harold Lucas	7.1.6, 7.2.1, 7.2.2, 7.3.2, 7.3.4.2, 7.4.4.6, 7.4.5.2, 7.4.6.3, 7.4.7.4, 7.4.7.5, 7.4.12.2
Community	S-63194475	Carolyn Emms	7.4.1.2, 7.4.4.3, 7.5.1, 7.6
Community	S-63226712	Keith Kerridge	7.2.1, 7.2.2, 7.3.4.1, 7.3.4.3, 7.4.1.4, 7.4.3.2, 7.4.3.3, 7.4.4.3, 7.4.4.4, 7.4.7.1, 7.4.7.4, 7.4.7.5, 7.4.8.5, 7.6
Community	S-63195232	John McGrath	7.2.1, 7.2.3, 7.4.1.2
Community	S-63250000	Mark Lucas	7.4.1.2, 7.4.1.5, 7.4.4.3, 7.4.4.4, 7.4.6.3, 7.4.9.1, 7.4.9.2
Community	S-63076727	Amanda Smith	7.2.1, 7.4.1.2, 7.4.6.3, 7.4.7.4, 7.4.12.2
Community	S-63250004	Huw Lucas	7.4.4.3, 7.4.4.6, 7.4.7.4, 7.4.12.2
Community	S-64565709	Peter Peel	7.2.1, 7.4.1.2, 7.4.4.4, 7.4.7.1, 7.4.7.4, 7.4.12.2
Community	S-63229469	Jessie Reynolds	7.1.1, 7.2.1, 7.3.2, 7.3.4.1, 7.3.4.3, 7.4.2.1, 7.4.4.3, 7.4.4.6, 7.4.6.3, 7.4.7.4, 7.4.12.2, 7.4.13.1, 7.4.13.2, 7.6
Community	S-63233458	Withheld	7.1.4, 7.1.5, 7.2.1, 7.2.3, 7.3.4.1, 7.3.4.2, 7.3.4.3, 7.4.1.2, 7.4.1.3, 7.4.4.3, 7.4.4.5, 7.4.5.1, 7.4.7.5, 7.4.8.1, 7.4.12.2, 7.4.12.3, 7.6
Community	S-63249225	Withheld	7.1.2, 7.2.1, 7.2.2, 7.3.1, 7.3.3, 7.3.4.2, 7.3.4.3, 7.4.1.1, 7.4.1.2, 7.4.3.1, 7.4.3.2, 7.4.3.3, 7.4.4.1, 7.4.4.3, 7.4.5.2, 7.4.7.1, 7.4.7.4, 7.4.8.4, 7.4.12.2, 7.4.18.1, 7.5.1
Community	S-63196516	Colin Smith	7.4.1.2, 7.4.4.3, 7.4.4.4, 7.4.6.4, 7.4.12.2, 7.4.12.3, 7.6
Community	S-63190240	Withheld	7.1.3, 7.2.1, 7.4.1.2, 7.4.4.3, 7.4.4.6, 7.4.5.2, 7.4.6.3, 7.4.6.4, 7.4.7.4, 7.4.8.4, 7.4.12.2, 7.4.12.3
Community	S-63196979	Withheld	7.1.3, 7.2.1, 7.2.2, 7.2.3, 7.3.2, 7.3.4.1, 7.3.4.2, 7.3.4.3, 7.4.1.1, 7.4.1.2, 7.4.1.3, 7.4.1.4, 7.4.2.1, 7.4.3.2, 7.4.4.3, 7.4.4.4, 7.4.4.5, 7.4.5.2, 7.4.6.3, 7.4.6.5, 7.4.7.4, 7.4.8.1, 7.4.10.2, 7.4.18.1

Submitter type	Submitter ID*	Name	Section where issues addressed in submissions report
Community	S-63274723	Withheld	7.2.1, 7.2.2, 7.3.3, 7.3.4.1, 7.3.4.3, 7.4.1.1, 7.4.4.3, 7.4.5.2, 7.4.6.2, 7.4.7.1, 7.4.7.2, 7.4.7.4, 7.4.8.1, 7.4.8.2, 7.4.9.3, 7.4.10.5, 7.4.12.2, 7.4.14.1, 7.4.14.3, 7.4.18.1, 7.5.3
Community	S-63800206	Bill Johnson	7.3.2, 7.3.4.3, 7.4.1.2, 7.4.4.3, 7.4.4.4, 7.4.7.4, 7.4.8.5, 7.4.12.2, 7.4.15.1



HumeLink

Appendix B Updated mitigation measures



Appendix B Updated mitigation measures

Table B-1 details the mitigation measures that would be implemented to avoid or minimise potential impacts from the amended project. Mitigation measures to avoid or minimise potential biodiversity impacts are provided in Appendix B.1 (Updated biodiversity mitigation measures).

To illustrate the changes to mitigation measures between the EIS and the amended project, text that has been removed is shown in **strike-through** and new text is shown in **bold green coloured** text.

Table B-1 Summary of proposed mitigation measures

Reference	Impact	Mitigation measure	Timing	Relevant location
Aboriginal heritage				
AH1	Impact to Aboriginal sites	The Aboriginal community consultation process for this project will continue until completion of construction.	Detailed design and construction	All locations
AH2	Impact to Aboriginal sites	The finalisation of the project design and construction methodology, and associated final disturbance areas, will be developed to avoid harm to sites of moderate or above Aboriginal heritage significance as far as practical practicable . The objective is to further reduce potential impacts through considered placement of transmission line structure locations and design refinement of proposed infrastructure and the associated construction methodology. Avoidance and minimisation of harm to sites and potential archaeological deposits (PADs) will be prioritised.	Detailed design	All locations
AH3	Impact to Aboriginal sites in unassessed areas of the project footprint	Additional assessment will occur in accordance with the <i>Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW</i> (2010a) for areas where ground disturbing activities are required in locations outside of the previously assessed area. Where required, additional heritage surveys will be carried out with the Registered Aboriginal Parties (RAPs) prior to ground disturbing activities occurring in any such areas (including areas where only visual inspection has been undertaken). If no Aboriginal objects are found or if Aboriginal objects are found and they would not be impacted, then a letter report will be prepared by an archaeologist that documents the findings and gives clearance to proceed.	Detailed design and construction	All locations (outside of the previously assessed area)

Reference	Impact	Mitigation measure	Timing	Relevant location
		<p>Where Aboriginal objects, scarred trees or areas of potential archaeological deposits (PADs) are located in unassessed areas and would be directly impacted, addendum report/s to Technical Report 2 – Aboriginal Cultural Heritage Assessment Report will be prepared. The report/s will:</p> <ul style="list-style-type: none"> • detail findings of the survey activities • detail where test excavation is required • outline any additional mitigation strategies beyond those required • be presented to the RAPs for comment. <p>Final reports will be provided to RAPs and to Heritage NSW for their information prior to the commencement of ground disturbing activities in these locations.</p>		
AH4	Impact to Aboriginal sites of cultural value	Identified Aboriginal sites of cultural value, will be avoided by the project where feasible. Further consideration of the potential to avoid direct or indirect impacts on the identified Aboriginal sites of cultural value will be carried out during detailed design.	Detailed design	Aboriginal sites of cultural value
AH5	Impact to Aboriginal sites – PADs	An archaeological subsurface test excavation program will be carried out in parts of any PADs where project activities would have direct impact and a test excavation program has not already been completed in the area of impact. Direct impacts include grading of tracks and construction work sites, excavation for transmission line structure construction and tree removal that includes the root ball.	Detailed design	PAD areas not already tested
AH6 AH5	Impacts to from construction of transmission line structures, new waterway crossings, worker accommodation facilities and construction compounds in areas of high and moderate Aboriginal archaeological sensitivity (subsurface archaeological sensitivity model)	Where detailed design confirms there would be direct impacts from the construction of transmission line structures, new waterway crossings, worker accommodation facilities and construction compounds in areas with high and moderate archaeological sensitivity that have not been previously subject to test excavations, prior to impact a desktop assessment and site inspection will be completed to determine the level of previous impact from past ground disturbing activities and to determine if the area contains a potential archaeological deposit (PAD) . If it is determined that the area contains a PAD and has undergone low previous impact then an archaeological subsurface test excavation program will be carried out in the area of direct impact . Direct impacts include grading of tracks and construction areas, excavation for transmission line structure construction and tree removal that includes the root ball.	Detailed design and construction	Areas of high and moderate sensitivity not already tested where project activities would have direct impact

Reference	Impact	Mitigation measure	Timing	Relevant location
AH7	Impacts to areas of moderate Aboriginal archaeological sensitivity	A field and desktop assessment will be completed in areas assessed as having moderate archaeological sensitivity where detailed design has confirmed project activities would have direct impact and a test excavation program has not already been completed in the area of impact. This is to determine the level of previous impact from past ground disturbing activities. If it is determined that the area has undergone low previous impact then an archaeological subsurface test excavation program will be carried out. Direct impacts include grading of tracks and construction areas, excavation for transmission line structure construction and tree removal that includes the root ball.	Detailed design	Areas of moderate sensitivity not already tested where project activities would have direct impact
AH6	Impacts from the construction of new or upgraded access tracks in areas of high and moderate Aboriginal archaeological sensitivity (model for predicting surface artefact scatters)	Following any stripping and grading works and prior to placement of any fill or road base material for construction of the access track, a site walkover will be completed and any surface artefacts will be recorded and moved off of the track. The artefact locations will be recorded as sites and then entered on the AHIMS database. The recording will include a record of their original location. Artefacts may be grouped into sites and the date provided to AHIMS accordingly.	Construction	Areas of high and moderate sensitivity not already tested where project activities would have direct impact
AH7	Tree removal that includes the root ball in areas of high and moderate Aboriginal archaeological sensitivity (model for predicting surface artefact scatters)	Following the root ball removal in areas assessed as having high and moderate sensitivity, the area will be inspected and any surface artefacts will be recorded and moved away from the area of impact. The artefact locations will be recorded as sites and then entered on the AHIMS database.	Construction	Areas of high and moderate sensitivity not already tested where tree root ball removal would be undertaken

Reference	Impact	Mitigation measure	Timing	Relevant location
AH8	Impact to Aboriginal sites – Modified/ scarred trees	Harm to modified trees (including those of cultural significance) and trees of cultural significance will be avoided where possible through design development and construction planning. Modified trees will only be removed to directly facilitate construction of permanent infrastructure and/or to meet Vegetation Clearance Requirements for the transmission line. If the removal of a scarred tree (a type of modified tree), or a tree of cultural significance, that has been assessed to be an Aboriginal object cannot be avoided, the tree will be subject to 3D scanning. Reports will be provided to RAPs and Heritage NSW. Following this, the scarred trunk will be salvaged. Prior to any impacts to modified or scarred trees, or a tree of cultural significance, consultation will be undertaken with the Registered Aboriginal Parties (RAPs) on salvaging the scarred tree trunk.	Detailed design	Modified/ scarred trees
AH9	Impact to Aboriginal sites – Isolated Finds, Artefact scatters and potential archaeological deposits (PADs) (moderate or high archaeological significance)	All portions of artefact scatters and isolated finds of moderate or high archaeological significance that will be directly impacted will require surface collection and salvage and/or movement prior to construction commencement in those areas. Additionally, based on the outcomes of the test excavations, salvage excavations will occur in accordance with the Code of Practice. Where test excavations identify archaeological deposits of moderate or high archaeological significance which cannot be avoided, salvage excavations will occur.	Detailed design and construction	Directly impacted sites and PADs
AH10	Indirect impact to adjacent heritage items	The locations of known Aboriginal heritage sites within and adjacent to the project footprint and the relevant protocols to avoid and manage any potential harm to the items will be communicated through the Heritage Management Plan to all relevant construction workers prior to construction commencing in that area.	Detailed design and construction	Transmission line
AH11	Impact to Aboriginal sites	Cultural heritage awareness training will be carried out for all construction workers working on the project prior to the construction workers participating in construction activities. The training shall cover sites of heritage significance within and adjacent to project work sites and protocols that must be complied with to minimise and manage potential impacts to those sites.	Construction	All locations
AH12	Unexpected finds	If at any time during construction, any items of potential Aboriginal heritage archaeological significance unanticipated Aboriginal objects (which are inconsistent with approved heritage impacts in Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report) , or human remains are discovered, they will be managed in accordance with an unexpected finds protocol that is aligned with the protocol in Attachment 6 of <i>Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report</i> .	Construction	All locations

Reference	Impact	Mitigation measure	Timing	Relevant location
AH13	Retrieved Salvaged archaeological material	The long-term management of Retrieved salvaged archaeological materials will be stored in appropriate facilities confirmed determined in consultation with the Registered Aboriginal Parties (RAPs).	Construction	As relevant
AH14	Post construction impacts to heritage items by maintenance activities	Sites of heritage significance that would remain in-situ within the transmission line easement, at substation locations and along access tracks will be mapped and recorded within GIS systems managed by Transgrid to reduce the potential for inadvertent impacts which may occur during maintenance activities.	Operation	Transmission line, substations and access tracks
AH15	Impacts from the upgrade of existing access track through Derringullen Creek Women's Site	If impacts to the Derringullen Creek Women's Site cannot be avoided during further detailed design and construction planning, further consultation with the relevant Registered Aboriginal Party (RAP) will be undertaken to seek guidance around minimising and managing the extent of impacts.	Detailed design and construction	Derringullen Creek Women's Site
Non-Aboriginal heritage				
NAH1	Unexpected finds	If at any time during construction, any items of potential historic heritage archaeological significance, or human remains are discovered, they will be managed in accordance with an unexpected finds protocol that is aligned with the protocol in <i>Technical Report 3 – Historic Heritage Impact Assessment Report</i> .	Construction	All locations
NAH2	Impact to unsurveyed areas	Additional assessment will occur in areas where ground disturbing activities are required in locations outside of the previously surveyed heritage survey area. Additional heritage surveys will be carried out prior to ground disturbing activities occurring in any such areas (including areas which were previously inaccessible and/or where only visual inspection has been undertaken). Whether or not If no historic items are found or if historic items are found and they would not be impacted, then a letter report will be prepared by a heritage specialist for all additional surveyed areas that documents the findings and gives clearance to proceed. Where historic items are located and would be impacted, a draft survey addendum report(s) to this report will be prepared for the survey areas. The report(s) will: <ul style="list-style-type: none"> • detail findings of the survey activities • detail where test excavation is required • outline any additional mitigation strategies beyond those required in Appendix B (Updated mitigation measures) of the Amendment Report. 	Detailed design	All locations (outside of the previously surveyed heritage survey area)

Reference	Impact	Mitigation measure	Timing	Relevant location
		Final reports will be provided to Heritage NSW for their information prior to the commencement of ground disturbing activities in these locations.		
NAH3	Post construction impacts to heritage items	Features/items of heritage significance that would remain in-situ within the transmission line easement and along access tracks will be mapped and recorded within GIS systems managed by Transgrid to reduce the potential for inadvertent impacts to occur during maintenance activities.	Operation	All permanent work
Land use and property				
LP1	Direct land use impacts	The location of infrastructure, work sites and access tracks (temporary and permanent) will be confirmed in consultation with landowners. Where permanent tracks are required, a single access track will be designed to serve both temporary and permanent purposes, where possible.	Detailed design and construction	All locations
LP2	Property impacts	<p>A property management plan will be developed for directly impacted properties in consultation with landowners and stakeholders. The property management plans will outline the protocols that will be implemented to address landowner concerns during construction. This may include:</p> <ul style="list-style-type: none"> the process for rectification of any damage to property infrastructure caused by construction the process for restoration or rehabilitation and stabilisation of disturbed areas following the completion of construction measures to minimise disruption to agricultural practices during construction any fencing and gate requirements specific biosecurity protocols. 	Detailed design and construction	All locations
LP3	Agricultural impacts	Alternative technologies which could enable weed control close to the transmission lines will be considered.	Detailed design and construction	All locations
LP4	Biosecurity	<p>Biosecurity controls will be implemented to minimise the risk of off-site transport or spread of disease, pests or weeds. Controls will be in accordance with a Biosecurity Management Plan developed as part of the Biodiversity Management Plan to be implemented during construction, and Transgrid's <i>Biosecurity Procedure and Biosecurity Environmental Guidance Note to be implemented during operation</i>, and will include development of specific controls if high biosecurity risks are identified. Appropriate measures will be implemented with respect to foot and mouth disease to control any risk of introduction via the project.</p> <p>The specific controls applicable to a property will be identified in consultation with the affected landowner. The effectiveness of these controls will be monitored in a manner and time interval consistent with the level of risk on each property.</p> <p>In the event of new infestations of notifiable weeds as a result of construction activities, the relevant control authority will be notified as per <i>Biosecurity Act 2015 (NSW)</i> and <i>Biosecurity Regulation 2017</i>.</p>	Construction and operation	All locations

Reference	Impact	Mitigation measure	Timing	Relevant location
LP5	Access impacts	Management of access on private landowner properties required for access to infrastructure for maintenance, including opening and closing of gates, will be done in accordance with landowner requirements.	Operation	Transmission line
LP6	GPS impacts	If adverse effects on agricultural precision farming (using GPS) is reported within 12 months of operation, practical rectification measures (including signal boosting equipment or antenna enhancement) will be considered. This will be carried out in consultation with the relevant landowners.	Operation	Transmission line
LP7	Stringing transmission line across Pejar Dam	<p>Should boats be used to string transmission lines across Pejar Dam, they will be:</p> <ul style="list-style-type: none"> operated in a manner that minimises wash and bank erosion appropriately maintained, and include spill containment kits clean and free of visible debris and biological material before entering the water. <p>Should drones or helicopters be used to string transmission lines across Pejar Dam, consultation will be undertaken with Goulburn Mulwaree Council to determine if further mitigation measures are required.</p>	Detailed design and construction	Pejar Dam
LP8	Consultation regarding aerial farming	Consultation will be undertaken with relevant landowners who utilise aerial farming operations to identify appropriate mitigation arrangements (where feasible) such as the installation of aerial warning markers on the transmission lines.	Construction and operation	Transmission line
LP9	Impacts to utilities and services	The location of all services and utilities within the construction area will be confirmed during detailed design, and any required protection or relocation will be designed in consultation with utility providers.	Detailed design	All locations
Economic				
EC1	Local employment	A Local Industry Participation Plan, an Australian Industry Participation Plan, a Workforce and Workforce Development Plan and an Aboriginal Participation Plan will be prepared and implemented.	Detailed design and construction	All locations
EC2	Potential business impacts	<p>Liaison will occur with local councils, interest groups, economic development organisations, local chambers of commerce and State government to:</p> <ul style="list-style-type: none"> notify local businesses of the goods and services required by the project, service provision opportunities and compliance requirements of businesses to secure contracts encourage and support local business in meeting the requirements of the project for supply contracts assist qualified local businesses to tender for provision of goods and services to support the construction of the project, where possible. 	Detailed design and construction	All locations

Reference	Impact	Mitigation measure	Timing	Relevant location
Social				
SO1	Accommodating temporary construction workers	Prepare and implement a Worker Accommodation Strategy for the construction workers during the construction period.	Detailed design and construction	All locations
SO2	Impacts on local services and social cohesion from introduction of temporary workers	Information will be provided to the construction workers that includes: <ul style="list-style-type: none"> information on community services and recreation facilities, events and tourism activities details on how to access health services including dedicated telehealth services organised by Transgrid a company contact if help is needed Code of Conduct to minimise the incidence of risk drinking and drug behaviours. 	Detailed design	All locations
SO3	Impacts on emergency services	Emergency services will be regularly updated on work plans and access routes in the event of an emergency.	Construction	All locations
SO4	Opportunities for long-term investment community benefit	Any opportunities for appropriate long-term use for the worker accommodation facilities (or component parts thereof) will be identified in consultation with councils and the relevant landowner/s .	Detailed design and construction	Worker accommodation facility facilities
SO5	Impacts on local services from introduction of temporary workers	Each worker accommodation facility will include appropriate food and catering facilities, fitness and recreational facilities, parking spaces and first aid facilities.	Detailed design and construction	Worker accommodation facilities
Landscape character and visual impact				
LV1	Vegetation retention	Opportunities for the retention and protection of existing trees within the disturbance area would will be identified during detailed construction planning. Identified trees of high conservation significance would will be retained and protected where practicable.	Detailed design	All locations
LV2	Vegetation retention	Temporary and permanent access tracks would will be designed to minimise vegetation removal, changes to landform, and visual impacts where practicable.	Detailed design	All locations

Reference	Impact	Mitigation measure	Timing	Relevant location
LV3	Construction lighting	Lighting at construction compounds and worker accommodation facility would facilities will be designed and operated in accordance with <i>AS 4282 2019 Control of the obtrusive effects of outdoor lighting</i> .	Detailed design and construction	Construction compounds and worker accommodation facility facilities
LV4	Vegetation protection	The Tree Protection Zone of retained trees within or immediately adjacent to the disturbance area would will be managed in accordance with <i>AS 4970-2009 Protection of Trees on Development Sites</i> where practicable to minimise the impact of the works on the long-term health of these trees.	Detailed design	All locations
LV5	Visual changes near residences	For residences where the project is predicted to have a moderate to high visual impact, opportunities for screening vegetation would will be investigated. Appropriate visual screening or other options (for example planting of vegetation) would will be confirmed in consultation with the affected landowner and implemented where practicable. Vegetative screening would be maintained by the landowner.	Detailed design, construction and operation	Transmission line
LV6	Operational lighting	Lighting at the substations would will be designed and operated in accordance with <i>AS/NZS 4282:2019 Control of the obtrusive effects of outdoor lighting</i> .	Operation	Substations
LV7	Dulling of transmission line structures	Transmission line structures will have a pre-dulled steel finish to minimise the potential for glare and reflection.	Detailed design and operation	All transmission line structures
LV8	Visual changes near residences	Transgrid will continue to work with landowners and neighbours to avoid, minimise and mitigate impacts, as well as advocate strongly for a consistent, fair, NSW Government policy on visual impacts to neighbouring properties.	Detailed design, construction and operation	Transmission line
Noise and vibration				
NV1	Construction noise	Where receivers are predicted to be noise affected and near construction compounds or fixed work areas sites with long durations (ie several months), path control, such as hoarding or earth bunds will be investigated. Practical measures will be implemented where required. Positioning of site structures will also be considered to act as barriers between noisy work and receivers where practical.	Detailed design and construction	<ul style="list-style-type: none"> ● Wagga 330 kV substation compound (C01) ● Memorial Avenue compound (C14) ● Bowmans Lane compound (C15)

Reference	Impact	Mitigation measure	Timing	Relevant location
				<ul style="list-style-type: none"> Tumbarumba accommodation facility (AC1) Construction compounds and worker accommodation facilities
NV2	Construction noise	<p>An out-of-hours work protocol that details how the project will identify, assess and approve out-of-hours work outside standard construction hours that are likely to generate noise levels that exceed the relevant noise management levels at sensitive receivers will be developed and implemented. The protocol will include provisions to:</p> <ul style="list-style-type: none"> carry out additional assessments for work proposed outside standard construction hours, to confirm noise levels at potentially affected sensitive receivers and determine suitable mitigation measures to minimise noise levels notify and engage with potentially noise affected receivers about upcoming work outside standard construction hours and address any associated complaints identify appropriate respite for noise affected receivers (where required). <p>The out-of-hours work protocol will not apply to the operation of the worker accommodation facility facilities.</p>	Detailed design and construction	All locations
NV3	Construction noise and vibration	<p>If blasting is required, a A Blast Management Plan will be developed to minimise the potential for airblast overpressure and vibration impacts.</p> <p>Maximum instantaneous charge calculations will be carried out undertaken for specific sites where blasting is required locations within the potential controlled blasting areas. Individual blast designs will be based on meeting the criteria rather than restrictions on maximum instantaneous charge.</p> <p>All blasts controlled blasting, including initial controlled trial blasts blasting will be monitored to obtain data which can be used to confirm site constants and compliance with controlled blasting criteria.</p> <p>Landowner notification and consultation requirements will be identified in the Blast Management Plan.</p>	Detailed design and construction	All locations

Reference	Impact	Mitigation measure	Timing	Relevant location
NV4	Construction noise	<p>Where construction is likely to result in exceedances of noise monitoring levels (NMLs) at sensitive receivers, mitigation and management measures will be implemented where practicable and appropriate. This will include (but is not limited to) the following measures:</p> <ul style="list-style-type: none"> • select quieter plant and equipment and use alternative construction methods to minimise noise levels • plan and schedule concurrent noisy activities to minimise the number of items of noisy plant operating at one time and cumulative noise levels • install screens or use barriers to mitigate noise from stationary noise sources • maximise the offset distance between noisy plant and sensitive receivers • orient noisy plant and equipment away from sensitive receivers • use noise source controls, such as residential class mufflers, to reduce noise from all regularly used plant including cranes, excavators and trucks • use non-tonal reversing alarms in place of traditional beeper reversing alarms during out-of-hours where noise impacts are predicted • turn off machinery when not in use • confirm equipment is maintained in accordance with manufacturer's requirements to minimise generation of excessive noise • operate machinery in a manner which reduces occurrence of maximum noise level events, such as excavator bucket impacts, material drop heights, steel on steel impacts and dragging materials across hard surfaces • provide awareness training regarding noise mitigation measures to be implemented as part of regular toolbox meetings • notify and consult with potentially noise affected receivers about upcoming noisy activities • confirm that noise affected receivers outside standard construction hours and highly noise affected sensitive receivers are managed with consideration to the Construction Noise and Vibration Guideline (Transport for NSW, 2023) (CNVG) additional mitigation measures such as notifications, verification, and respite where appropriate. 	Construction	All locations
NV5	Construction noise	<p>Monitoring will be carried out for noise intensive activities that have the potential to cause noise exceedances at sensitive receivers, to confirm that actual levels are consistent with the predictions and that appropriate mitigation measures have been implemented.</p>	Construction	All locations

Reference	Impact	Mitigation measure	Timing	Relevant location
NV6	Construction noise	<p>All construction vehicle movements will adhere to the following measures:</p> <ul style="list-style-type: none"> • out-of-hours vehicle movements will be minimised where possible • construction delivery vehicles will be fitted with straps rather than chains for unloading, wherever possible • use of engine compression brakes will be avoided at night and in residential areas • site access points and roads/flight paths will be located as far as possible away from sensitive receivers • traffic flow, parking and loading/unloading areas will be planned to minimise reversing movements • construction inductions will include driver behaviour requirements to minimise vehicle noise emissions. 	Construction	All locations
NV7	Construction vibration	<p>Where vibration intensive work is required within the recommended minimum working distances and is considered likely to exceed the cosmetic damage criteria:</p> <ul style="list-style-type: none"> • different construction methods with lower source vibration levels will be investigated and implemented, where feasible • vibration monitoring will be undertaken at the start of work to determine actual vibration levels at the receiver • work will be ceased if the monitoring indicates vibration levels are likely to, or do, exceed the relevant criteria. 	Construction	All locations
NV8	Operational substation noise	<p>The design and layout of the proposed Gugaa 500 kV substation will comply with the Noise Policy for Industry (NSW EPA, 2017) (NPfI) criteria. The design will consider the following measures to mitigate potential noise impacts:</p> <ul style="list-style-type: none"> • positioning of transformer barriers • selection of equipment with consideration of sound power levels • acoustic modelling of noise levels at surrounding receivers from all noise-generating substation equipment. 	Detailed design and operation	Proposed Gugaa 500 kV substation

Reference	Impact	Mitigation measure	Timing	Relevant location
NV9	Operational transmission line noise	<p>Receivers potentially noise affected by operational transmission line noise will be reviewed once the final project transmission line route, conductor arrangement and any property acquisitions are known. A detailed operational noise assessment will be undertaken based on the final project transmission line route, conductor arrangement and confirmation of any property acquisitions, to confirm potentially noise affected receivers.</p> <p>A detailed operational noise assessment will be undertaken based on the final project transmission line route, conductor arrangement and confirmation of any property acquisitions, to confirm potentially noise affected receivers.</p> <p>For each residence where potential operational noise levels are predicted to exceed project trigger levels, noise monitoring to confirm actual operational noise levels would will be carried out:</p> <ul style="list-style-type: none"> • at representative locations within six months of the commencement of operation; and • at the request of the landowner of the residence at any time within two (2) years after the commencement of operation. <p>The noise monitoring will occur during weather/atmospheric conditions conducive to generating the corona effect. For residences where the monitoring identifies corona discharge noise levels above 35 dB(A) LAeq, 15min at the reasonably most affected point of the residence, consultation will be undertaken with the landowner of the affected residence to identify solutions. Once the appropriate solutions have been agreed with the landowner, these will be implemented within 12 months.</p>	Detailed design and operation	Transmission lines
NV10	Construction aircraft noise	<p>Management measures will be implemented to minimise aircraft noise at sensitive receivers where practicable and appropriate. Measures will include (but are not limited to):</p> <ul style="list-style-type: none"> • Carrying out consultation to notify nearby sensitive receivers of upcoming work involving aircraft. This will include scheduled use of helipads within construction compounds and combined worker accommodation facilities and construction compounds, flight paths outside of the project footprint and stringing or other work within the transmission line corridor. Notification will include scheduled dates, locations, indicative hours and a description of the proposed work. • Prioritising use of potential helipad locations at the construction compounds and combined worker accommodation facilities and construction compounds with the maximum distance offset from sensitive receivers. • Varying flight paths between helipads and the transmission line corridor to avoid repeated helicopter noise at sensitive receivers. • Operating aircraft in accordance with <i>Airservices Australia (ASA) Environmental Principles and Procedures for Minimising the Impact of Aircraft Noise (2002)</i> and the <i>Helicopter Association International (HAI) Fly Neighbourly Guide</i>. 	Construction	All locations

Reference	Impact	Mitigation measure	Timing	Relevant location
Soils, geology and contamination				
SC1	Salinity	<p>Prior to ground disturbance within areas mapped as moderate to high risk saline soils, an inspection will be undertaken for the presence of saline soils. Areas of known or suspected salinity will be subject to further testing as required.</p> <p>If salinity is confirmed, excavated soils will be managed in accordance with <i>Book 4 Dryland Salinity: Productive use of Saline Land and Water</i> (NSW DECC, 2008c) and the <i>Salinity Training Manual</i> (DPI, 2014) to manage salinity impacts. Erosion controls will be implemented in accordance with The Blue Book <i>Managing Urban Stormwater – Soils and Construction, Volume 1</i> (Landcom 2004), and <i>Volumes 2A (DECC, 2008a) and 2C (DECC, 2008b), commonly referred to as the ‘Blue Book’</i>.</p> <p>Prior to construction, materials will be selected to withstand acidic or high saline soil and groundwater environment (where applicable).</p> <p>During construction, existing areas of waterlogging and poor drainage will be avoided, where possible, when building access tracks and permanent structures.</p>	Detailed design and construction	All locations
SC2	Soil contamination	<p>Disturbance to areas of environmental concern (AECs) identified as having a moderate risk or greater will be avoided or minimised where practicable during construction. Where disturbance cannot be avoided, potential impacts will be minimised during finalisation of the design and construction methodology, where practicable.</p> <p>AECs identified as having a moderate risk that will be disturbed will be further assessed prior to construction. The investigations will be undertaken in accordance with the assessment of site contamination NEPM 2013.</p> <p>Any remediation required for the project will be undertaken based on a site-specific Remedial Action Plan. The Remedial Action Plan will define remedial goals and objectives, performance criteria for remedial effort and remediation methodology. A validation report will be prepared after remedial effort and be in accordance with the NSW EPA <i>Guidelines for Consultants Reporting on Contaminated Land</i> (NSW EPA, 2020).</p>	Detailed design and construction	All locations
SC3	Acid sulfate soils and rocks	<p>Prior to ground disturbance in areas of potential acid sulfate soil or rock occurrence, testing will be carried out to determine the presence of actual and/or potential acid sulfate soils or rocks. If acid sulfate soils or rocks are encountered, they will be managed in accordance with the <i>Acid Sulfate Soil Manual</i> (ASSMAC, 1998).</p>	Detailed design and construction	All locations

Reference	Impact	Mitigation measure	Timing	Relevant location
SC4	Soil contamination – chemical spills and runoffs	<p>All chemicals, fuels or other hazardous substances will be stored in accordance with the supplier's instructions and relevant legislation, Australian Standards and applicable guidelines.</p> <p>Environmental spill kits containing spill response materials suitable for the work being undertaken will be available with extras available to be carried in vehicles.</p> <p>A spill response procedure will be developed and implemented. All staff will be trained in emergency spill procedures.</p>	Construction and operation	All locations
SC5	Naturally Occurring Asbestos	<p>Detailed design will consider the risk of encountering naturally occurring asbestos (NOA) within the project footprint. Consideration may include movement of footings to areas with less risk of NOA, footing design changes or minimising rock blasting and ripping where practicable.</p> <p>An Asbestos Management Plan will be prepared in accordance with the NSW Government Code of Practice <i>How to Manage and Control Asbestos in the Workplace</i> (SafeWork, 2020). The Asbestos Management Plan will include the following measures:</p> <ul style="list-style-type: none"> • management or isolation of areas mapped as medium to high risk of NOA, where direct disturbance of NOA is confirmed to be required for project construction works • placement of suitable signage around the work areas • list of appropriate personal protective equipment, including Respiratory Protective Equipment • implementation of dust suppression controls including wetting surfaces, covering disturbed surfaces and the use of sealed air-conditioned vehicles to minimise potential asbestos impacts to workers • decontamination of the workers' coveralls, personal protective equipment, equipment and work site • procedures for the disposal of NOA material or waste, if required • implementation of air monitoring using pumps and sample filter grid cowls for asbestos fibres and dusts if it is suspected that exposure to NOA dust during work might exceed safe levels of airborne asbestos. The air monitoring pumps, and reporting, must be undertaken by a licensed asbestos assessor. 	Detailed design and construction	All locations
SC6	Soil contamination	<p>The contractor will undertake compliance monitoring, keep a record of waste volumes and waste types and keep a stockpiles register where excavations and stripping of surface soil contamination occurs. The contractor will keep all records during construction for waste disposal and for the importation of materials such as engineering fill and excavated natural materials (ENM) or virgin excavated natural materials (VENM) soils.</p> <p>Engineering fill materials for use on site will be validated to confirm they meet the classification of VENM or ENM prior to being transported to site.</p>	Construction	All locations

Reference	Impact	Mitigation measure	Timing	Relevant location
SC7	Unexpected contamination	The discovery of any unexpected contamination during construction will be managed in accordance with an Unexpected Contaminants Finds Protocol which will be prepared prior to construction.	Construction	All locations
Surface water and groundwater				
SW1	Water quality, erosion risk – erosion and sedimentation	<p>An Erosion and Sediment Control Plan (ESCP) will be developed and implemented in consultation with a Certified Professional in Erosion and Sediment Control during construction for activities and areas that are considered higher risk. The plan will detail the processes, responsibilities and measures to manage potential soil and water quality impacts in accordance with the principles and requirements in:</p> <ul style="list-style-type: none"> • <i>Managing Urban Stormwater – Soils and Construction, Volume 1</i> (Landcom, 2004), and Volumes 2A (DECC, 2008a) and 2C (DECC, 2008b), commonly referred to as the 'Blue Book' • <i>Best Practice Erosion and Sediment Control</i> (IESCA, 2008) • Transgrid's Environmental Guidance Notes • <i>Guidelines for controlled activities</i> (Riparian corridors (DPE, 2022d) and <i>Watercourse crossings</i> (DPE, 2022e)). 	Construction	All locations
SW2	Water quality and geomorphology	<p>Design Consideration of scour protection will be included for any infrastructure that is within a waterway channel. The design will incorporate features that minimise impact on flow conditions and natural functioning of the waterway, where possible feasible and reasonable.</p> <p>For work within or near waterways consider and adhere to the following guidelines</p> <ul style="list-style-type: none"> • Guidelines for controlled activities (Riparian corridors (DPE, 2022c) and Watercourse crossings (DPE, 2022b)) • Guidelines for Controlled Activity - In-stream works (DPE, 2022f) • Guidelines for Controlled Activity - Watercourse crossings (DPE, 2022e) • <i>Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings</i> (DPI, 2003) • <i>Policy and Guidelines for Fish Habitat Conservation and Management</i> (DPI, 2013). 	Detailed design and construction	Waterways

Reference	Impact	Mitigation measure	Timing	Relevant location
SW3	Surface and groundwater quality - monitoring	<p>Water quality monitoring will be implemented to establish baseline water quality conditions in waterways of high sensitivity that may be impacted by nearby construction and to detect any changes in water quality that may be attributable to the project during construction. The frequency, location and duration of sampling will be detailed in a monitoring program. Monitoring locations will include:</p> <ul style="list-style-type: none"> at a minimum two monitoring locations (one located upstream and one downstream of the transmission line crossing) for waterways with a Strahler 4th stream order or higher within the Sydney Drinking Water Catchment where construction activities within 200 metres of the waterway will be carried out and could result in impacts monitoring for total dissolved solids, total suspended solids, total nitrogen, and total phosphorus. 	Detailed design and construction	All locations
SW4	Water supply	<p>Water supply options and management will be undertaken in accordance with agreements between the construction contractors, relevant landowners, and relevant water users and suppliers.</p> <p>Groundwater and surface water allocations purchased from existing registered bores/users must be extracted in accordance with the conditions stated in the associated Water Access Licences(s) (WAL(s)) and Water Supply Works approval(s).</p>	Detailed design and construction	All locations
SW5	Groundwater flow paths, levels and users	<p>Alternative construction methodologies will be investigated and implemented as required to minimise impacts to groundwater dependent ecosystems (GDEs) and registered groundwater bores, if identified to be directly impacted during detailed design. Make good provisions will need to be made to the groundwater user(s) for bores that will be affected in line with the minimal impact criteria listed within the NSW Aquifer Interference Policy.</p> <p>Where groundwater dewatering is required, the following will be conducted:</p> <ul style="list-style-type: none"> dewatering assessment (including dewatering volume estimates) dewatering procedures will be included in the Soil and Water Management Plan (SWMP) in line with the minimal impact criteria listed within the NSW Aquifer Interference Policy, relevant water sharing plans (WSPs) and licencing requirements where relevant Water Supply Works Approval (where needed) Water Access Licence (WAL) (if dewatering volumes exceed 3 ML/year). 	Detailed design and construction	All locations

Reference	Impact	Mitigation measure	Timing	Relevant location
SW6	Surface water and groundwater	<p>Where controlled blasting is required, a suitably qualified blasting specialist will be engaged to carry out a detailed blasting assessment and trial blasts (if required) to determine blasting design and site-specific parameters.</p> <p>The blasting assessment should identify measures to limit vibrations to the recommended “safe” levels (defined in <i>AS 2187.2-2006 Explosives - Storage and use</i>), limit rock mass damage, avoid "over-blasting" and consider and mitigate potential impacts to:</p> <ul style="list-style-type: none"> • groundwater dependent ecosystems • groundwater users • surface water bodies. 	Detailed design and construction	Controlled blasting locations
Hydrology and flooding				
HF1	Drainage design and stormwater management	Suitable on-site drainage design and stormwater management strategies and plans will be implemented to limit adverse flood impacts on surrounding properties during construction.	Detailed design and construction	All construction compounds and combined worker accommodation facilities and construction compounds
HF2	Impact of earthworks to establish new access tracks on flooding	The detailed design will consider the potential impacts on flooding associated with earthworks for new access tracks and the need for cross drainage culverts or bridge structures. The cross drainage infrastructure will be sized appropriately to minimise adverse flood impacts.	Detailed design	Access tracks
HF3	Impact on flooding at all construction compounds and combined worker accommodation facilities and construction compounds the Snowy Mountains Highway construction compound (C02)	<p>Where possible, overland flow paths up to the 5% AEP event for construction compounds and 2% AEP for combined worker accommodation facilities and construction compounds across the southern extent of the Snowy Mountains Highway compound (C02) is are to remain unobstructed from bulk filling, site infrastructure and/or stockpiling.</p> <p>Selective placement of sensitive or vulnerable infrastructure (eg electrical equipment, buildings, machinery, stockpiles, pedestrianised areas etc) will be considered in flood prone areas.</p> <p>Where bulk filling of flood prone land is required, a flood impact assessment is required to demonstrate the impact of proposed works with consideration of mitigation measures to minimise any downstream impacts.</p>	Detailed design	All construction compounds and combined worker accommodation facilities and construction compounds Snowy Mountains Highway compound (C02)

Reference	Impact	Mitigation measure	Timing	Relevant location
HF4	Impact on flooding and drainage at construction compounds, combined worker accommodation facilities and construction compounds and Bannaby 500 kV substation	<p>Where possible, existing drainage and overland flowpaths will be maintained at the Maragle substation compound (C05), Gregadoo Road compound (C06) construction compounds, combined worker accommodation facilities and construction compounds and Bannaby 500 kV substation. Where filling is required, suitable drainage design and stormwater management strategies and plans will be implemented to limit adverse flood impacts on surrounding properties.</p> <p>Selective placement of sensitive or vulnerable infrastructure (eg electrical equipment, buildings, machinery, stockpiles, pedestrianised areas etc) will be allocated to areas away from drainage lines.</p> <p>On site detention will be incorporated where increases in site stormwater discharges exceed predevelopment flows, and will be designed in accordance with the Blue Book Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom, 2004), and Volumes 2A (DECC, 2008a) and 2C (DECC, 2008b), commonly referred to as the 'Blue Book'.</p>	Detailed design and construction	Maragle substation compound (C05), and Amended Gregadoo Road compound (C06), and Bannaby 500 kV substation, Amended Bannaby 500 kV substation compound (C12), Gadara Road compound (C19), Adjungbilly accommodation facility and compound (AC04), Yass accommodation facility and compound (AC05), Crookwell accommodation facility and compound (AC06), Ardrossan Headquarters Road compound (C17), Ellerslie Road compound (C21).
HF5	Impact on flooding and drainage at Gugaa 500 kV substation	Suitably sized cut-off drains and cross drainage culverts will be designed and constructed to maintain existing flood behaviour around and downstream of the proposed Gugaa 500 kV substation footprint, unless otherwise approved by NSW Department of Planning, Housing and Infrastructure.	Detailed design and construction	Proposed Gugaa 500 kV substation

Reference	Impact	Mitigation measure	Timing	Relevant location
Hazards and risks				
HR1	Protection zones and landscaping	Asset protection zones (APZs) will be managed in accordance with <i>Planning for Bush Fire Protection: A guide for councils, planners, fire authorities and developers requirements</i> (NSW RFS, 2019) (PBP), and associated criteria.	Detailed design, construction and operation	Substations and project buildings within construction compounds and the temporary worker accommodation facility facilities
HR2	Easement management	Vegetation within the proposed transmission line easement will be managed in accordance with Transgrid's existing vegetation management standards consistent with the clearance requirements principle identified in <i>AS/NZS7000:2016 Overhead Line Design</i> .	Detailed design, construction and operation	Transmission line easements
HR3	Ancillary buildings	The final location of the telecommunications hut will need to be assessed with a visual inspection to confirm potential bushfire risk.	Detailed design	Telecommunications hut
HR4	Access	Access to substations and project buildings within the bushfire survey area will be established in accordance with: <ul style="list-style-type: none"> <i>Planning for Bushfire Protection 2019</i> requirements (NSW RFS, 2019) criteria Access requirements will be in accordance with <i>NSW Fire Trail Standards</i> (NSW RFS, 2016) and <i>Fire Trail Construction and Design Maintenance Manual</i> (Soil Conservation Science, 2017). 	Construction and operation	Access tracks to substations and project buildings within bushfire survey areas
HR5	Bush Fire Emergency Management and Evacuation Plan (BFEMEP)	The project will be designed and constructed in accordance with a Bush Fire Emergency Management and Evacuation Plan (BFEMEP) . The BFEMEP will be prepared by a suitably qualified person and will include: <ul style="list-style-type: none"> Bushfire Emergency Evacuation Plan Bush Fire Risk Management Plan (BRMP) protocols during construction, considering activities during days with fire danger rating 'high' or greater bushfire response and notification measures to report fires at the earliest opportunity bushfire mitigation measures including maintaining asset protection zones (APZs) and mechanisms for the handling and use of any dangerous goods bushfire risk induction and training for personnel, including risks and management measures associated with construction equipment and activities fire reporting, emergency areas, on-site refuges, and evacuation procedures and is to be consistent with <i>Development Planning: A guide to developing a bush fire emergency management and evacuation plan</i> (NSW RFS, 2014). 	Detailed design, and construction and operation	All locations

Reference	Impact	Mitigation measure	Timing	Relevant location
		<p>The BFEMEP will be consistent with relevant Australian standard and development plans and guides.</p> <p>For the Special Fire Protection Purpose (SFPP), the BFEMEP will include planning for the early relocation of occupants in the event of a potential bushfire or other emergency situation.</p> <p>A copy of the BFEMEP will be provided to the Local Emergency Management Committee for its information prior to occupation of the development.</p>		
HR6	Aviation safety	The detailed design of the transmission line structures with coordinates and elevations will be provided to relevant stakeholders (including Airservices Australia, Department of Defence, Aerial Application Association of Australia, Forestry Corporation of NSW and ALA owners along the transmission line route). The notification will be made as early as possible.	Detailed design	All locations
HR7	Aviation safety	Consultation with Civil Aviation Safety Authority (CASA) will be undertaken to confirm whether obstacle lighting and marking of the transmission line structures are required. The provision of markers on transmission lines cables and transmission line structures within three nautical miles (5.6 kilometres) of the final transmission line route will be considered with the appropriate stakeholders.	Detailed design and construction	Transmission line route between Wagga 330 kV substation and Gugaa 500 kV substation
HR8	Aviation safety	<p>Approval to operate construction cranes that infringe the obstacle limitation surface (OLS) for Wagga Wagga Airport will be obtained in advance of the proposed activity at the transmission line between Wagga 330 kV substation and Gugaa 500 kV substation. Wagga Wagga Airport management and Aerial Application Association of Australia will be provided with details of the crane operations at least seven days prior to their commencement via the Notice to Airmen (NOTAM) procedure.</p> <p>Details of potential stringing of transmission lines with helicopters and/or drones will be provided to Airservices Australia prior to commencement of stringing activities.</p>	Construction	Transmission line route between Wagga 330 kV substation and Gugaa 500 kV substation Transmission line
HR9	Chemicals, fuels and hazardous substances	All chemicals, fuels or other hazardous substances will be stored in accordance with the supplier's instructions and relevant legislation, Australian Standards and applicable guidelines. The capacity of any bunded area will be at least 130 per cent of the largest chemical volume contained within the bunded area. The location of the bunded enclosure/s will be shown on the site plans.	Construction and operation	All locations
HR10	Dangerous goods and hazardous materials	Dangerous goods and hazardous substances will be transported in accordance with relevant legislation and codes, including the <i>Dangerous Goods (Road and Rail Transport) Act 2008</i> , Road and Rail Transport (Dangerous Goods) (Road) Regulation 1998 and the <i>Australian Code for the Transport of Dangerous Goods by Road and Rail</i> (National Transport Commission, 2018).	Construction	All locations

Reference	Impact	Mitigation measure	Timing	Relevant location
HR11	Emergency response	The Wagga 330 kV substation and Bannaby 500 kV substation Emergency Response Manuals will be updated to include the modifications and required revised emergency response procedures.	Detailed design and operation	Wagga 330 kV substation and Bannaby 500 kV substation
HR12	Emergency response	An Emergency Response Manual will be prepared for the proposed Gugaa 500 kV substation and will include emergency response procedures.	Detailed design and operation	Proposed Gugaa 500 kV substation
HR13	Electric and magnetic fields	The detailed design for the transmission line and substations will be developed to comply with the following criteria: <ul style="list-style-type: none"> Magnetic fields: 2,000 milligauss being the ICNIRP guideline 'Reference Level' Electric fields: 9.1 kV per metre, ensuring compliance with the ICNIRP guideline 'Basic Restriction'. 	Detailed design	Transmission line and substations
HR14	Electric and magnetic fields	Within 12 months of the commencement of operation, an EMF compliance report will be produced to ensure compliance with the following EMF design criteria: <ul style="list-style-type: none"> Magnetic fields: 2,000 milligauss being the ICNIRP guideline 'Reference Level' Electric fields: 9.1 kV per metre, ensuring compliance with the ICNIRP guideline 'Basic Restriction'. 	Operation	All locations
HR15	Bushfire	A minimum of 20,000 litre static water supply for firefighting purpose will be provided for each construction compound and worker accommodation facility where no reticulated water is available in accordance with <i>Planning for Bush Fire Protection: A guide for councils, planners, fire authorities and developers</i> (NSW RFS, 2019).	Construction	Construction compounds and worker accommodation facilities
Traffic, transport and access				
TT1	Road safety – design	Access tracks, access connections and road upgrades required to facilitate the movement of project related traffic will be designed and constructed in a fit for purpose manner for construction. Where required, intersection works with public roads will be designed and constructed according to relevant Austroads guides or the relevant asset owners' standards.	Detailed design	Access tracks and roads
TT2	Impact to road network during OSOM deliveries	Prior to commencement of transportation activities, the validity of the previously undertaken haulage route studies will be confirmed in consideration of final haulage route conditions and applicable route restrictions for the period during which transportation of such components is planned. Any relevant permits and approvals will be sought from National Heavy Vehicle Regulator, the relevant road and rail authorities, NSW police, and utility owners and providers.	Detailed design	Transportation route

Reference	Impact	Mitigation measure	Timing	Relevant location
TT3	General construction impacts	Traffic controls will be aligned with <i>Traffic Control at Work Sites – Technical Manual Version 6.1 (Transport for NSW (TfNSW), 2022)</i> . Traffic controls will be confirmed in consultation with the relevant road authority.	Detailed design and construction	All locations
TT4	Road maintenance	<p>Prior to construction, road dilapidation surveys condition assessments will be carried out for all local roads to be used during construction. The surveys will assess the current condition of the road surface and will be documented in a road condition report, with a copy being provided to the relevant road authority.</p> <p>At the completion of project construction, a subsequent road condition assessment will be prepared to assess the damage to roads accessed by project related traffic. Road condition assessments will be undertaken during and following construction to assess the damage to roads accessed by project-related traffic. Damage caused by the project will be rectified or compensated for, during or after construction, in consultation with the relevant road authority.</p>	Detailed design and construction	Access routes
TT5	Impact on rail operation	All project activities in rail corridors will be undertaken in accordance with the permission granted by the appropriate rail authority. Stringing of transmission line over rail tracks will be scheduled during rail maintenance periods or in a duration which permits sufficient gap between scheduled freight or passenger services to undertake the work.	Construction and operation	All locations
TT6	Temporary lane/road closure	Road closures will be undertaken with the approval of the appropriate road authority and under the relevant road occupancy licence to be obtained prior to construction. Where feasible, road closures will be planned outside of the traffic peak to minimise the impact on the road network.	Construction	All locations
TT7	Road safety – driver related	A Code of Conduct applicable to all construction workers will be developed and implemented which will define acceptable driver behaviour. The purpose of the Code of Conduct is to promote road safety and ensure that the impacts of construction-related vehicle movements on local roads and the local community are minimised. The Code of Conduct will be developed as part of a wider suite of documents under work health and safety requirements.	Construction	Roads providing access to project
TT8	Community and stakeholder consultation	<p>Community and stakeholder communication strategies will be established and implemented to notify the affected communities, visitors, emergency services and relevant road and rail authorities in advance of any disruptions to traffic, anticipated delays, disruptions to property access and changes to travel routes.</p> <p>The strategies will be developed including details on communication channels, frequency of communication and response measures in relaying information to the community and stakeholders.</p>	Detailed design and construction	All locations

Reference	Impact	Mitigation measure	Timing	Relevant location
Air quality				
AQ1	Dust emissions	<p>The following measures will be considered and implemented where practicable and appropriate to manage dust:</p> <ul style="list-style-type: none"> • use water sprays or surfactants as required for dust suppression • provide adequate water supply on site for dust suppression • locate dust generating activities away from receptors • protect stockpiled materials from wind erosion to minimise dust generation and position stockpiles as far as practicable away from any nearby receptors • implement measures to minimise the tracking of dust generating material onto paved roads • cover the loads of potential dust producing materials • minimise the extent of ground disturbance as far as practicable • stabilise disturbed areas as soon as practicable • plan and schedule vegetation clearance and grubbing activities to minimise areas of open and exposed soil. <p>The effectiveness of the installed controls will be monitored, and additional controls implemented as required to address any performance issues identified.</p>	Construction	All locations
AQ2	Vehicles and machinery emissions	All vehicles and machinery will be maintained in accordance with manufacturer's specifications.	Construction	All locations
AQ3	Vehicle movements	Dust generation from project-related traffic movements on unsealed roads and access tracks (routes) in proximity to sensitive receivers will be visually monitored. Where dust from project-related traffic movements is impacting or has the potential to impact the sensitive receivers, measures to minimise dust emissions and potential associated amenity impacts will be implemented where practicable and appropriate.	Construction	All locations

Reference	Impact	Mitigation measure	Timing	Relevant location
AQ4	Operation of concrete batching plant(s)	<p>Measures will be implemented at concrete batching plants to minimise emissions to air as far as possible, and will be regularly inspected with additional controls implemented as required.</p> <p>Concrete batching plants that will produce greater than 5,000 tonnes per year will be located 100 m (or more) from sensitive receptors.</p> <p>Measures to minimise emissions to air may include (where relevant):</p> <ul style="list-style-type: none"> • all aggregate and sand will be stored appropriately in storage bins or bays to minimise dust generation, and material will not exceed the height of the bay • cement silos and hoppers will be fitted with dust filters • all inspection points and hatches will be fully sealed • all dry raw materials to be transferred into the bowl of an agitator via front end loaders by maintaining adequate moisture levels and/or an enclosed conveyor • the cement silo will be fitted with emergency pressure alert and automatic cut off overfill protection • transfer of cement from storage to batching will occur via sealed steel augers • regularly inspect monitoring of dust emissions and apply additional controls as required. <p>Where recommended separation distances cannot be achieved, alternative controls to minimise potential impacts will be investigated and implemented.</p>	Construction	Concrete batching plant(s)

Reference	Impact	Mitigation measure	Timing	Relevant location
AQ5	Crushing/screening activities	<p>To minimise dust emissions during crushing/screening activities, the following measures (as a minimum) will be considered and implemented where practicable and appropriate:</p> <ul style="list-style-type: none"> • locate plant 500 m (or more) from sensitive receptors • fit screen covers will be fitted to the crushing/screening equipment • control dust emissions from screening activities using water sprinklers, where required and appropriate • inspect the water sprinklers on a regular basis and maintain as required to ensure operational efficiency • where practicable, install wind breaks in appropriate locations adjacent to the dust generating equipment and processes • prior to screening, dampen the rocks during dry weather conditions. <p>The effectiveness of the implemented controls will be monitored, and additional controls implemented as required to address any performance issues identified.</p> <p>Where recommended separation distances cannot be achieved, alternative controls to minimise potential impacts will be investigated and implemented.</p>	Construction	Crushing/screening plant(s)
AQ6	Diesel generators	<p>To minimise the impact of emissions from the use of diesel generators on sensitive receptors, the following measures (as a minimum) will be considered and implemented where practicable and appropriate:</p> <ul style="list-style-type: none"> • Locate the equipment so it is away from the prevailing wind direction and maximise the distance to the nearest sensitive receiver • Connect to existing electricity network rather than using diesel generators where possible. • If connection to existing electricity network is not possible, where practical and appropriate implement the following recommended separation distances: <ul style="list-style-type: none"> - Greater than 10 MW in aggregate: 1,000 metres from sensitive receptor locations - Greater than or equal to 100 kW but less than 10 MW in aggregate: 500 metres from sensitive receptor locations <p>Where recommended separation distances cannot be achieved, alternative controls to minimise potential impacts will be investigated and implemented.</p>	Construction	Diesel generators at compounds and worker accommodation facilities

Reference	Impact	Mitigation measure	Timing	Relevant location
AQ7	Helipads	<p>To minimise the impact of air emissions from the use of helipads on sensitive receptors, the following measures (as a minimum) will be considered and implemented where practicable and appropriate:</p> <ul style="list-style-type: none"> • Locate helipad as far as practical from sensitive receptors • Minimise dust generation at take-off and landing sites and sites being used for transmission line structure assembly (particularly those used frequently) by the implementation of dust control measures including: <ul style="list-style-type: none"> - provision of water carts to apply water or other dust suppressants as and when required on work areas close to potential sensitive receptors - visual monitoring of dust generation - community liaison and mechanisms for registering and resolving complaints. 	Construction	Helipads at compounds and worker accommodation facilities
Climate change and greenhouse gas				
CC1	GHG emissions	The use of sulfur hexafluoride (SF₆) gas will be minimised where possible, including through the investigation of alternatives.	Detailed design and operation	Substations
CC2	GHG emissions	Options that will be considered during Infrastructure Sustainability Council (ISC) rating design review include energy efficient and passive design features for substation and worker accommodation facility buildings including air conditioning, lighting, low-flow fittings and solar power.	Detailed design	Substations and worker accommodation facility facilities
CC3	GHG emissions	Options to minimise transport distances between construction compounds, accommodation facilities and work sites will be considered, for example utilising vehicle pooling / mini-buses and sourcing equipment and materials locally where practicable.	Detailed design	All locations
CC4	GHG emissions	GHG emissions and associated activity data will be tracked and recorded to assist in identifying key emission sources and appropriate targeting of mitigation measures, as well as to provide learnings for other projects and demonstration of Infrastructure Sustainability (IS) Rating compliance.	Construction and operation	All locations
CC5	GHG emissions	Sulfur hexafluoride (SF₆) gas emissions will be minimised through existing Transgrid leakage detection monitoring programs, maintenance and end of life dismantling procedures.	Operation	Substations
Waste				
W1	Resource management	The resource management hierarchy principles established under the Waste Avoidance and Resource Recovery Act 2007 (WARR) Act of avoid, reduce, reuse, or recycle with disposal as the last resort will be applied to further development, construction and operation of the project.	Detailed design, construction and operation	All locations

Reference	Impact	Mitigation measure	Timing	Relevant location
W2	Stockpiling of wastes	<p>Stockpiled wastes, where required, will be:</p> <ul style="list-style-type: none"> • appropriately segregated to avoid mixing and contamination • appropriately signposted • appropriately stored in accordance with <i>Managing Urban Stormwater – Soils and Construction</i> (Landcom, 2004) • less than three metres in height with an appropriate height to length batter ratio • located as far away as reasonably practicable from sensitive receivers, ecological areas and waterways. 	Construction	All locations
W3	Storage and transport of waste	All waste will be assessed, classified, managed, and disposed of in accordance with the <i>Waste Classification Guidelines</i> (NSW EPA, 2014). Waste will be appropriately transported, stored and handled according to their waste classification and in a manner that prevents pollution of the surrounding environment. All waste related documentation such as waste classifications, transfer and disposal documentary evidence will be held by the proponent for a minimum of seven years from the date the waste is generated.	Construction and operation	All locations
W4	General waste management	<p>The reuse of spoil and soils sourced from construction will be considered under an NSW EPA approved resource recovery order where the materials are sourced from within the project footprint and suitable from both a contamination and geotechnical perspective.</p> <p>Where a NSW EPA Resource Recovery Order exists for waste generated by the project, the opportunity to reuse that waste will be considered prior to disposal. The orders will need to be reviewed during construction and operation for validity and applicability.</p>	Construction and operation	All locations
W5	Hazardous waste	Hazardous waste will be managed by appropriately qualified and licensed contractors, in accordance with the requirements of the <i>Environmentally Hazardous Chemicals Act 1985</i> and the EPA waste disposal guidelines.	Construction and operation	All locations
Cumulative impacts				
CI1	Occurrence of cumulative impacts	<p>Coordination and engagement with proponents and/or construction contractors of relevant future projects will occur during detailed design and construction to confirm the potential cumulative impacts and timing of activities that have potential cumulative impacts. Coordination and engagement will include:</p> <ul style="list-style-type: none"> • providing regular construction program updates • identifying potential conflict points with other relevant future projects, eg proximity of work sites, or shared construction access routes and traffic management requirements • developing mitigation strategies in order to manage conflicts that may arise. 	Detailed design and construction	All locations

Reference	Impact	Mitigation measure	Timing	Relevant location
CI2	Occurrence of cumulative impacts	Engagement with the Department of Defence and Transport for NSW will be carried out during detailed design and construction to confirm the potential for cumulative impacts from the RAAF Base Wagga Redevelopment, Kapooka Military Area Redevelopment and work associated with the <i>Tumut to Hume Highway (Snowy Mountains Highway and Gocup Road) Corridor Strategy</i> (Transport for NSW, 2016). Mitigation strategies will be developed if potential cumulative impacts are identified.	Detailed design and construction	All locations

B.1 Appendix B.1 Updated biodiversity mitigation measures

Appendix B.1 will be provided separately with *Technical Report 1 – Revised Biodiversity Development Assessment Report*.



HumeLink

Appendix C NSW Department of Climate Change, Energy, the Environment and Water – Environment and Heritage detailed response



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