TransGrid

Jacobs

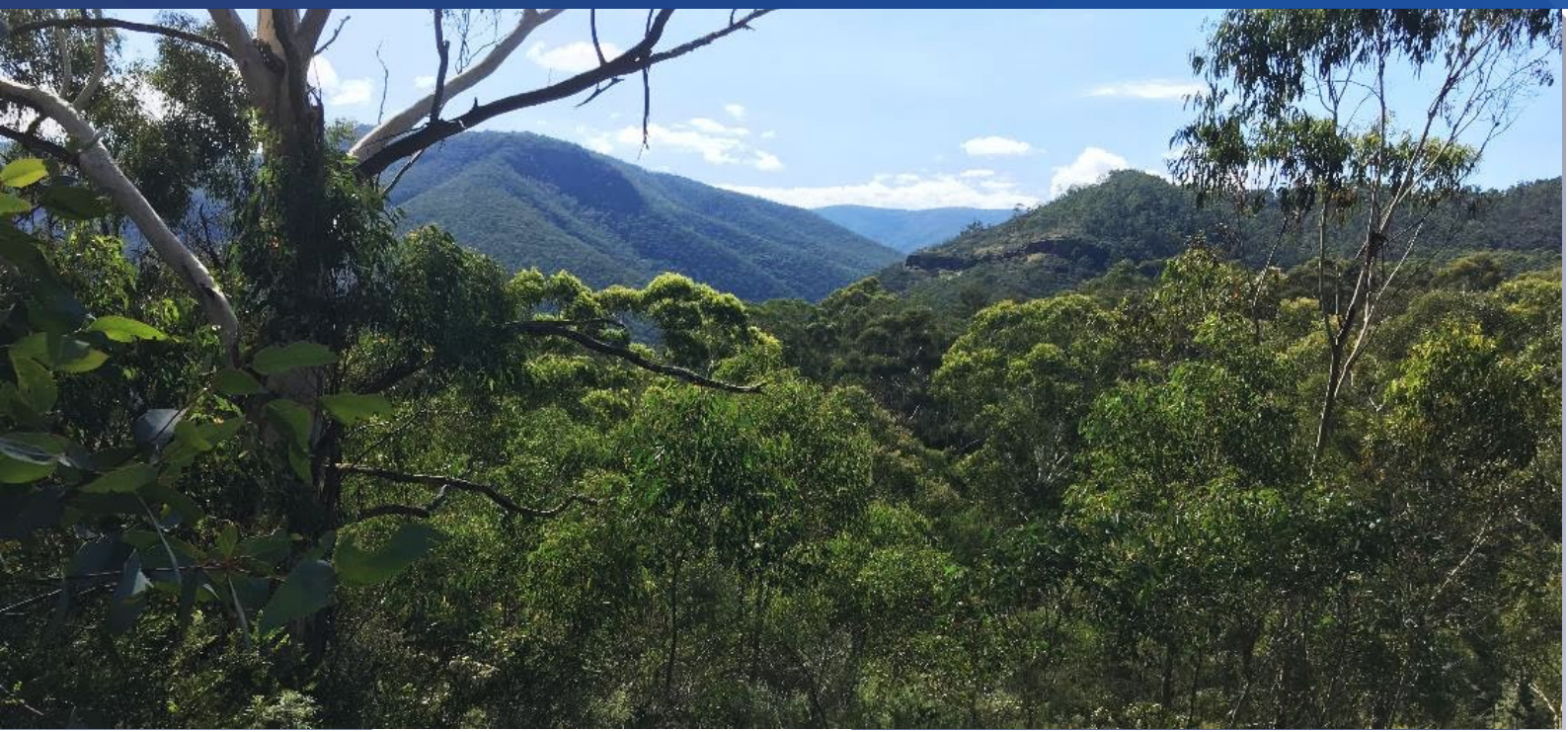
Environmental Impact Statement Executive Summary

Snowy 2.0 Transmission Connection Project

Environmental Impact

Assessment (February 2021)

Volume 1



Executive Summary

In 2020 Snowy Hydro Limited (Snowy Hydro) obtained approval to expand the existing Snowy Mountains Hydro-electric Scheme (Snowy Scheme) by linking the existing Tantangara and Talbingo reservoirs through a series of underground tunnels and constructing a new underground hydro-electric power station (referred to as 'Snowy 2.0'). Snowy 2.0 is expected to increase the generation capacity of the Snowy Scheme by almost 50 percent, providing an additional 2,000 megawatts (MW) of generating capacity, and making approximately 350,000 megawatt hours (MWh) of large scale storage available to the National Electricity Market (NEM).

To connect Snowy 2.0 to the NEM, a new transmission connection is required. NSW Electricity Networks Operations Pty Ltd as a trustee for NSW Electricity Operations Trust (known as TransGrid) is seeking approval under Part 5, Division 5.2 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) for the construction and operation of the Snowy 2.0 Transmission Connection Project (the project) to enable the grid connection of Snowy 2.0 to the NEM. The project has been declared Critical State Significant Infrastructure (CSSI) under the State Environmental Planning Policy (State and Regional Development) 2011 as part of the CSSI declaration for the Snowy 2.0 and Transmission Project in clause 9 of Schedule 5.

The key elements of the project are shown on **Figure E-1** and include:

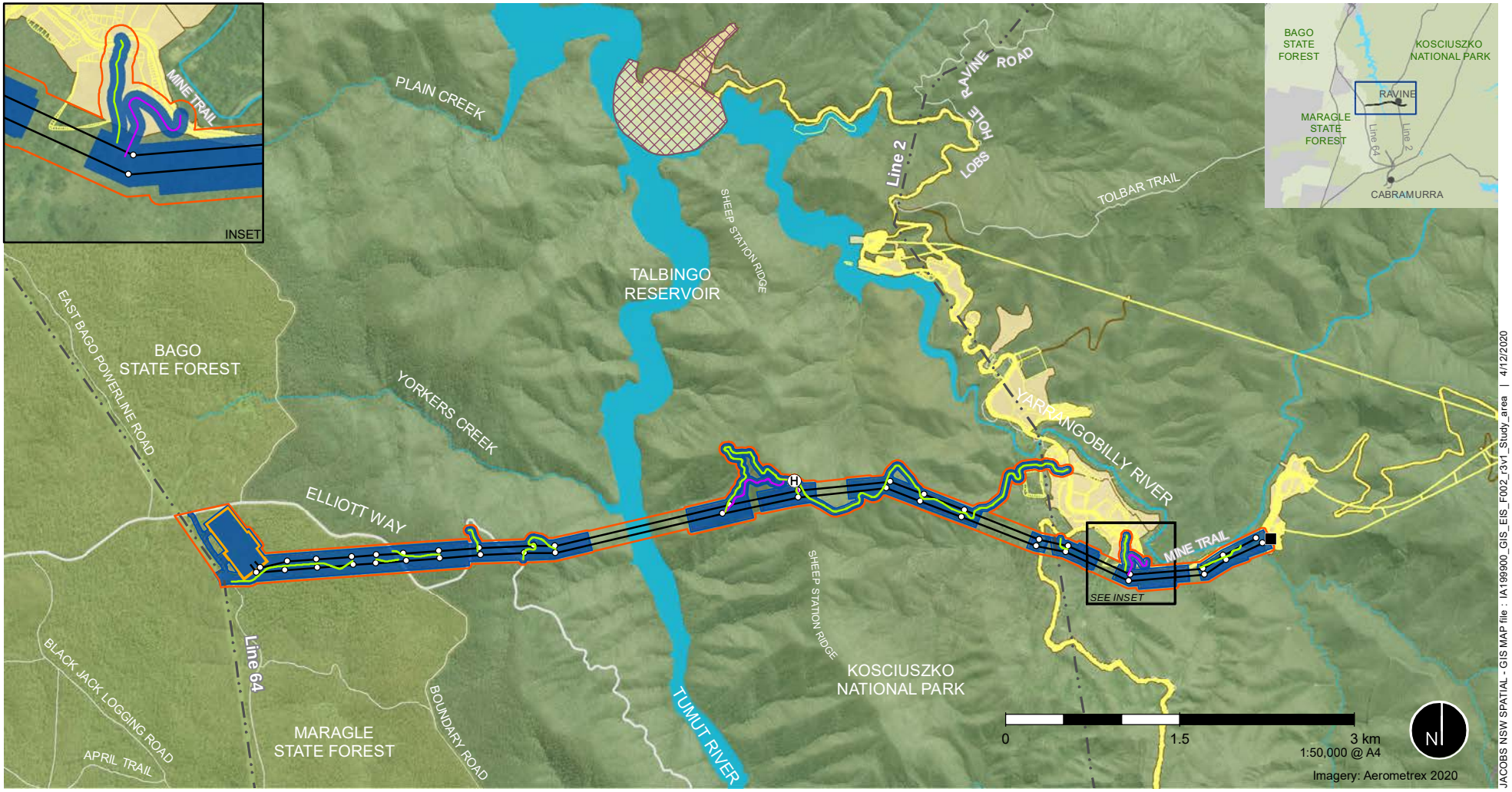
- A new 500/330 kilovolt (kV) substation located within Bago State Forest and adjacent to TransGrid's existing Transmission Line 64 (Line 64)
- Two 330 kV double-circuit overhead transmission lines, approximately nine kilometres long, linking the Snowy 2.0 cable yard in Kosciuszko National Park (KNP) to the new substation
- A short overhead transmission line connection between the substation and Line 64
- Construction of new access tracks and upgrade of existing access tracks where required to facilitate the construction of the transmission lines and substation and service ongoing maintenance activities
- Establishment of temporary sites and infrastructure needed during construction including crane pads, site compounds, a helipad, equipment laydown areas, and tensioning and pulling sites for the stringing of overhead conductors and earthwires.

The eastern extent of the project is defined by the Snowy 2.0 cable yard location at Lobs Hole in KNP, which has been approved separately as part of the Snowy 2.0 Main Works Infrastructure Approval (SSI-9867). The project then spans west across Talbingo Reservoir to TransGrid's existing Line 64 in Bago State Forest. Line 64 is the point of connection for the project to the NEM. The project would also provide a connection point into TransGrid's southern network reinforcement project (HumeLink), which when completed would strengthen the southern network, including reducing constraints on Line 64, and would allow the export of the full capacity of Snowy 2.0 across the broader transmission system. HumeLink is not the subject of this EIS or application.

Subject to obtaining necessary approvals, construction of the project is anticipated to commence in early 2022 and take approximately 39 months to complete.

The project is a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), with the relevant controlling provisions being national heritage places, listed threatened species and communities and listed migratory species. The project will be assessed under the Bilateral Agreement process between the Commonwealth and NSW Governments. Therefore, a single Environmental Impact Statement (EIS) has been prepared to address the requirements set out by the NSW Department of Planning, Industry and Environment (DPIE) and the Commonwealth Department of Agriculture, Water and the Environment.

This EIS has been prepared addressing the Secretary's Environmental Assessment Requirements (SEARs) issued by DPIE on 1 November 2019 and focuses on the key issues of biodiversity, heritage, water, land, transport, amenity, air, hazards and socio-economic impacts. The EIS has not found any issues that would preclude the approval of the project by the consent authority.



- Project area
- Disturbance area
- Proposed 500kV substation
- Potential helipad location
- Proposed structure
- Proposed transmission line
- Proposed access track - Option A
- Proposed access track - Option B
- Snowy 2.0 cable yard
- Snowy 2.0 element
- Ravine Bay Emplacement Area
- Snowy 2.0 Disturbance footprint
- Electricity transmission line
- Waterway
- Water body
- State forest
- NPWS estate

Figure E-1 | Project overview

Data source:
Jacobs 2020, TransGrid, EMM 2020,
© Department Finance, Services and Innovation 2018

Need for the project

The need for the project is driven by the fundamental requirement that new generation assets need to be connected to the transmission network to be able to operate within the NEM. Consequently, a new transmission connection is required for the transmission of electricity generated by Snowy 2.0 into the existing transmission network.

Alternatives

The primary requirement of the project is to provide a high voltage connection from Snowy 2.0 into TransGrid's transmission network. To achieve this a number of options were considered for the connection. These options included alternative substation locations and connection points, underground cables and various overhead transmission line routes. The preferred project option, which is the subject of this EIS, consists of an overhead transmission connection connecting the Snowy 2.0 cable yard within KNP to Line 64 via a new substation located within Bago State Forest. The overhead transmission connection approach is a proven method in the steep alpine terrain characteristic of the project area. Compared to the other options, the overhead transmission solution would involve considerably less excavation works and spoil generation. While vegetation clearing along the transmission corridor would be required to ensure safe operational clearances, areas of remnant alpine forest can be retained within the gully areas. In addition, the overhead transmission connection would allow for safer worksites to be established, which would generally be confined to structure locations and along access tracks.

Objectives

Based on the strategic context and need for the project, the objectives of the project are to:

- Connect a declared CSSI (Snowy 2.0) project to the NEM
- Meet TransGrid's operational requirements and its commitments to Snowy Hydro to construct and operate the transmission connection in a manner that is safe, reliable and secure
- Be consistent with the principles in *TransGrid's Environment Policy* (TransGrid, 2018), including the integration of 'environmental management considerations into the planning, design, siting, construction, maintenance, operation so as to avoid and minimise potential environmental impacts as far as practicable'
- Take into account and address key stakeholder and community needs and expectations with respect to the protection of the environment, heritage features (both Aboriginal and non-Aboriginal), recreational aspects of KNP and visual amenity.

Summary of key findings of the EIS

This EIS was prepared by Jacobs Group (Australia) Pty Ltd (Jacobs) on behalf of TransGrid to support the CSSI application and Commonwealth approval of the project. The EIS considered potential environmental, social and economic impacts and benefits of the project, and describes measures identified to minimise and avoid impacts. A summary of the findings of assessments for the key issues identified in the SEARs is provided below.

Biodiversity

The project is located within a predominately natural landscape containing a diversity of habitats with high biodiversity value. A number of threatened species including Gang-gang Cockatoo, Masked Owl, Diamond Firetail, Varied Sittella, Flame Robin, Scarlet Robin and Dusky Woodswallow, Yellow-bellied Glider, Squirrel Glider and Eastern Pygmy Possum were identified during the field surveys. No threatened ecological communities or threatened plant species listed under the *Biodiversity Conservation Act 2016* (BC Act) or EPBC Act were identified during these field surveys.

The project would require the clearing of approximately 135.57 hectares of native vegetation within KNP and Bago State Forest, which provides habitat for threatened species. The project would also impact on connectivity for some species due to the clearing for the transmission corridor and associated access tracks. Other potential indirect impacts that may occur include water quality impacts, collision of fauna with transmission lines,

increased fire risk and increases in noise, vibration, dust and light. No significant impacts to biodiversity are expected.

Where impacts on biodiversity cannot be avoided or minimised, appropriate offsets would be provided. A Biodiversity Offset Strategy has been prepared for the project.

Heritage

There are three potential archaeological deposits (PAD) and one Aboriginal heritage site listed on Aboriginal Heritage Information Management System (AHIMS) (ST PAD 01, ST PAD 01, ST PAD 03 and AHIMS# 56-6-0477) located within the disturbance area which would be directly impacted by the project. Although impacts to Aboriginal items are unavoidable, mitigation strategies including salvage would aim to recover a representative sample of the sites subject to impact and contribute further to our understanding of Aboriginal occupation.

The project is located within the curtilage of two heritage places on the National Heritage List, being the Australian Alps National Parks and Reserves, and the Snowy Scheme. These heritage places are a matter of national environmental significance (MNES) under the EPBC Act. The project would not physically impact any of the physical components of the Snowy Scheme but the project area includes about 195 hectares or 0.028 per cent of KNP, which is one of 11 parks and reserves that comprise the larger Australian Alps National Parks and Reserves heritage place and which also contains components of the Snowy Scheme. Due to the projects relatively small footprint within the curtilage of these two items the project would not impact the existing heritage values of either item.

Ten other items of non-Aboriginal heritage were identified within the disturbance area and would be impacted by the project. Although some impacts to historical items are unavoidable, mitigation strategies including archival recording are proposed and would aim to contribute further to our understanding of historical occupation and events.

Water

Potential impact to water quality would primarily be during construction due to the clearing of vegetation and disturbance to land. While minor local effects would be likely to occur as a result of the project, the regional effects on surface water flows, water quality, groundwater resources and flooding are expected to be negligible with the implementation of mitigation measures.

Land

Key impacts relevant to land include erosion and sedimentation from earthworks, and contamination risks associated with Naturally Occurring Asbestos (NOA) and historical land uses at Lobs Hole which may be encountered during earthworks. The NOA risk and impacts from earthworks would be managed with the implementation of mitigation measures during construction.

Transport

Construction would result in temporary impacts on traffic and access, and an increase in heavy and light vehicle movements on the local road network. The additional traffic movements during construction are not expected to impact the safety and function of the existing road network. Traffic management during construction would ensure public safety through the provision of traffic controls and community consultation.

Air

Potential air quality impacts would relate to increased dust generated during construction, particularly due to the clearing of vegetation and earthworks. These impacts are expected to be minor and minimised with the implementation of management measures.

Amenity

The amenity values of the project area are reflective of its location within a national park and state forest setting.

Noise and visual impacts would be greatest during construction. As public access would be restricted during construction, these impacts would largely not be experienced by the public.

The landscape character and visual impact assessment determined that the introduction of new permanent elements into the landscape would result in a change to the landscape character and visual setting of KNP and Bago State Forest. The greatest visual impact would occur where the transmission corridor is established and requires the clearing of vegetation in proximity to publicly accessible roads and viewpoints. Opportunities for the mitigation of visual impacts are limited due to the nature of the existing topography and vegetation limiting the introduction of landscape screening.

The noise and vibration assessment concluded that construction noise levels (including blasting) would be within criteria for identified sensitive receivers, and that the additional construction traffic movements would not result in unacceptable changes in traffic noise levels at identified sensitive receivers along the haulage routes. It also concluded that operational noise from the substation and transmission lines would not result in unacceptable impacts at the identified sensitive receivers.

Hazards, risk and public safety

Potential hazards and public safety risks from the project, including electric magnetic fields (EMF), transport and storage of dangerous goods and hazard substances, bushfire and flooding risks have been assessed.

The project would introduce additional risks for on-site ignitions which may result in a fire escaping to the surrounding state forests or KNP. These may arise from electrical failure, contact between conductors and vegetation, or hot works during construction or operation causing ignition at the project area.

Public access to majority of the project area would be restricted during construction, limiting public exposure to hazards and risks. Mitigation measures have been identified to enable the project to achieve compliance with the relevant requirements for bushfire protection such as establishing asset protection zones (APZs) and maintaining emergency access and egress routes.

Social economic

The social and economic impacts would mainly be associated with the construction of the project. Economic benefits are anticipated for local businesses and accommodation owners due to increased demand for goods and services. There are however potential impacts anticipated in relation to the availability of accommodation for tourists and visitors during peak tourist periods and increased pressure on community services and facilities from the construction workforce. Near the project area, potential impacts include noise, dust and visual impacts and temporary changes to boating access on Talbingo Reservoir and impacts to community values relating to scenic and landscape amenity as a result of vegetation clearing.

During operation, the project would support the efficient and reliable transmission of additional renewable energy from Snowy 2.0, and improved security and reliability of the NEM and lower energy costs for consumers. Locally, impacts would mainly be associated with changes in land use within the project area, including loss of this land for recreation and any potential long term future forestry uses.

Cumulative impacts

The project would have a cumulative impact with Snowy 2.0 and other projects in the region during construction. The cumulative impacts would be associated with biodiversity, traffic and amenity (visual, noise and dust), water quality and bushfire risk. The project and Snowy 2.0 will implement mitigation measures to reduce or ameliorate these impacts and the majority of these impacts would be temporary and localised to the Lobs Hole Ravine area and would unlikely contribute to impact in the broader region.

During operation there would be a cumulative visual impact from Snowy 2.0 and the project due to more infrastructure being visible in the landscape around Lobs Hole Ravine area.

Environmental mitigation and management

To manage the potential impacts identified by the EIS, and in some cases avoid them completely, a range of mitigation measures have been identified that would be implemented during construction and operation. A construction environmental management plan (CEMP) including sub-plans would detail how specific environmental issues are to be managed during construction in accordance with the mitigation measures provided in the EIS. The CEMP would provide a framework for establishing how these measures would be implemented and who would be responsible for their implementation. The CEMP would also incorporate the conditions of approval from the NSW Minister for Planning and Public Spaces and Commonwealth Minister for the Environment, if granted.

Community consultation

TransGrid engaged with key stakeholders throughout development of the project, including government (local, State and Commonwealth), the local community, service providers, local industry and business groups, affected landowners, environmental groups, and the Aboriginal community. Engagement activities started in 2018 during project development.

DPIE will place this EIS on public exhibition for six weeks to allow the community the opportunity to review the EIS and make a submission. The EIS will be available for viewing and download on the DPIE Major Projects website (www.planningportal.nsw.gov.au/major-projects).

After reviewing submissions, TransGrid will prepare a submissions report that responds to the issues raised. Any changes to the project in response to submissions and other factors would be documented in a preferred infrastructure report or an amendment report. The Commonwealth and NSW Governments would then carry out a regulatory assessment and determine whether the project should be approved, and any conditions to be applied to the consent, should it be granted.

Justification

The project has been declared CSSI and is essential to connect Snowy 2.0 to the NEM. The project would also provide a connection point into the future southern network reinforcement project (HumeLink), which when completed would strengthen the southern network, including reducing constraints on Line 64, and would allow the export of the full capacity of Snowy 2.0 across the broader transmission system. The benefits of connecting Snowy 2.0 to the NEM, are considered to outweigh any identified adverse impacts of the project. While some environmental impacts cannot be avoided, they would be minimised where possible through the implementation of mitigation measures and offsetting.

This EIS considered and assessed the potential impacts of the project to construct and operate a nine kilometre long overhead transmission connection and substation that would connect Snowy 2.0 to the NEM. It has been prepared to support TransGrid's application for approval of the project in accordance with the requirements of Part 5, Division 5.2 of the EP&A Act, and as a controlled action under the EPBC Act. The EIS addresses the environmental assessment requirements of the SEARS, dated 1 November 2019.

This EIS demonstrates that the project could be undertaken without any significant long term impacts on the local environment. As such, the project is considered to be in the public interest.

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