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Broken Hill Battery Energy Storage System Project

Scoping Report

Broken Hill Battery Energy Storage System Project

Scoping Report

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Document Broken Hill Battery Energy Storage System Project







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Abbreviations

Abbreviation	Description
AGL	AGL Energy Limited
AHIMS	Aboriginal Heritage Information Management System
BAM	Biodiversity Assessment Method
BC Act	<i>Biodiversity Conservation Act 2016</i>
BDAR	Biodiversity Development Assessment Report
BESS	Battery Energy Storage System
BoM	Bureau of Meteorology
Broken Hill LEP	<i>Broken Hill Local Environmental Plan 2013</i>
CIV	Capital Investment Value
DPIE	Department of Planning, Industry and Environment
EES	Environment, Energy and Science Group
EIE	<i>Explanation of Intended Effect: Emerging electricity infrastructure</i> (DPIE, 2019)
EIS	Environmental Impact Statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPA	NSW Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPI	Environmental Planning Instrument
FTE	Full time equivalent
ICNG	Interim Construction Noise Guideline
ISEPP	<i>State Environmental Planning Policy (Infrastructure) 2007</i>
Km	Kilometre
kV	Kilovolt
LGA	Local Government Area
m	Metres
MNES	Matters of National Environmental Significance
MW	Megawatts
MWh	Megawatt-hour
NEM	National Energy Market
NPFN	Noise Policy for Industry
NSW	New South Wales
PCT	Plant Community Type
PHA	Preliminary hazard analysis
SEARs	Secretary's Environmental Assessment Requirements
SEPP 33	<i>State Environmental Planning Policy No 33 – Hazardous and Offensive Development</i>
SEPP 55	<i>State Environmental Planning Policy No. 55 – Remediation of Land</i>

Abbreviation	Description
SRD SEPP	<i>State Environmental Planning Policy (State and Regional Development) 2011</i>
SSD	State Significant Development
SSDA	SSD application

Executive Summary

Introduction

AGL Energy Limited (AGL) is seeking development consent to construct, operate and maintain a battery storage facility with a capacity of approximately 50 megawatts (MW) and up to 100 megawatt-hour (MWh) at Broken Hill (the Project). The Broken Hill Battery Energy Storage System (BESS) would provide a range of network services to augment the reliability of energy supply at Broken Hill. The proposed Project will provide storage and firming capacity to the National Energy Market (NEM) as well as additional services to assist grid stability including frequency control ancillary services.

The proposed location of the Project (the Site) is at two lots located on 74 and 80 Pinnacles Place, Broken Hill, 2880 (Lots 57 and 58 of DP 258288). The Site is close to the TransGrid Broken Hill substation located at 76 Pinnacles Road, Broken Hill 2880 (Lot 2 of DP 1102040).

The Project is classified as State Significant Development (SSD). As such, this Scoping Report has been prepared for the Project to support a request for Secretary's Environmental Assessment Requirements (SEARs). The SEARs would guide the preparation of an Environmental Impact Statement (EIS) to support the SSD application (SSDA) for the Project as required under, Division 4.7 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Statutory Context

The Project is defined under the *Standard Instrument—Principal Local Environmental Plan (Standard Instrument)*, as electricity generating works, as this definition includes a building or place used for the purpose of electricity storage. The Site is zoned as IN1 – General Industrial under the *Broken Hill Local Environmental Plan 2013* (Broken Hill LEP), which is a prescribed industrial zone for electricity generating works under *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP). Clause 34 of the ISEPP means that the Project is “*not permissible without development consent under Part 4 of the EP&A Act.*”

The Project is SSD, pursuant to section 4.36 of Part 4 of the EP&A Act, as it meets the requirements of clause 8 and the provisions set out in clause 20 of Schedule 1 of the *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP) in that:

- The Project is for the purpose of electricity generating works; and
- It has a capital investment value of more than \$30 million.

Accordingly, the Project is classified as SSD and an EIS would be required to support the SSDA for the Project.

Stakeholder Engagement Approach

AGL is committed to engaging with relevant stakeholders to identify potential impacts and to discuss potential avoidance and/or mitigation measures. To achieve this objective, AGL would undertake consultation with the aim of providing stakeholders with an opportunity to express their views and provide feedback and be involved in the SSDA process.

The key objectives of consultation would be to:

- Initiate and maintain open communication;
- Provide an understanding of the regulatory approval process to stakeholders;
- Seek local information and input into the Project by providing a range of opportunities for stakeholders to identify key issues for consideration; and
- Proactively work with stakeholders to propose strategies to maximise benefits and minimise adverse impacts of the Project.

Key Environmental Matters

An environmental risk screening exercise has been undertaken for the Project and is included in this Scoping Report. This screening exercise has taken into consideration the likelihood of an environmental impact occurring and the consequence of that impact should it not be mitigated. The likelihood and consequence of each potential impact has been combined through the significance screening matrix to establish the environmental risks associated with key issues for the environmental assessment of the Project. This risk screening assessment considered potential impacts on the natural and built environment and the potential interest of the local community and stakeholders.

The matters that have been identified for further detailed assessment during the preparation of the EIS are:

- Aboriginal heritage impacts given the presence of identified Aboriginal heritage values in proximity to the Project and the undeveloped nature of the Site;
- Biodiversity including potential impacts to threatened communities and threatened fauna;
- Surface water impacts and flood risks resulting from surface water quality impacts and the potential for flooding to impact the Project;
- Bushfire risk on assets due to surrounding bushfire prone land; and
- Noise and vibration from construction activities and potential impacts to sensitive receivers.

Other matters that will be considered in the EIS are:

- Air quality impacts in relation to dust created during construction;
- Noise from operational activities;
- Transport and access in relation to potential minor impacts to the road network from construction and operational traffic;
- Soils, groundwater and contamination impacts related to erosion and sediment control during construction, intercepting groundwater and the exposure of potential contamination;
- Hazards and risk associated with the operation of batteries and associated dangerous goods;
- Waste generation in relation to the types of waste generated during the construction and operation of the Project; and
- Socio and economic impacts including the potential benefits relating to increased employment opportunities.

In assessing the Project, the key focus would be avoidance and minimisation of impacts on the environment and local communities, where practical and feasible, when taking into consideration engineering constraints and cost implications. The assessment would also identify mitigation and management measures to minimise impacts on the environment during construction and operation of the Project. Consultation with stakeholders and the local community will continue throughout the Project assessment, design and construction phases.

It is requested that DPIE confirm the Project as SSD and issue SEARs to enable an EIS to be prepared.

As part of the preparation of the EIS, further assessments would be carried out to define the potential environmental impacts of the Project. Mitigation and management measures would be recommended to avoid or minimise potential impacts on the environment during construction and operation of the Project.

1.0 Introduction

1.1 Overview

AGL Energy Pty Ltd (AGL) is seeking development consent to construct, operate and maintain a battery storage facility with a capacity of approximately 50 megawatts (MW) and up to 100 megawatt-hour (MWh) at Broken Hill (the Project). The Broken Hill Battery Energy Storage System (BESS) would provide a reliable supply of electricity to Broken Hill in the event of line failure and provide efficient grid support for the region. The proposed Project will provide storage and firming capacity to the National Energy Market (NEM) as well as additional services to assist grid stability including frequency control ancillary services.

The proposed location of the Project (the Site) is at two lots located at 74 and 80 Pinnacles Place, Broken Hill 2880 (Lots 57 and 58 of DP 258288). The Site is close to the TransGrid Broken Hill substation located at 76 Pinnacles Road, Broken Hill 2880 (Lot 2 of DP 1102040). The Project would also involve the installation of an overhead transmission connection between both sites, which will traverse Lot 7302 DP1181129, being Crown Land. The location of the Site is shown in **Figure 1**.

Key features of the Project include:

- Construction and operation of a BESS of a nominal capacity of approximately 50 MW and up to 100 MWh; and
- Connection of the BESS to the nearby TransGrid substation via a 22 kV overhead powerline connecting through a 22 kV busbar in the substation.

Key components of the Project would include:

- Battery enclosures;
- Inverters;
- Medium voltage transformers up to 22 kV;
- Cabling and collector units;
- Control and office building;
- 22 kV electrical switchyard;
- Security fencing and lighting;
- Access, internal roads and car parking;
- Drainage and stormwater management;
- Overhead transmission connection; and
- Other ancillary infrastructure.

The Project is considered State Significant Development (SSD) under the *Environmental Planning and Assessment Act 1979* (EP&A Act) as it satisfies the requirements of Clause 8 of the *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP), being:

- a. The development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the EP&A Act; and*
- b. The development is specified in Schedule 1 or 2 of the SRD SEPP.*

The Project is defined under the *Standard Instrument* as electricity generating works, as this definition includes a building or place used for the purpose of electricity storage. The Site is zoned as IN1 – General Industry under the *Broken Hill Local Environmental Plan 2013* (Broken Hill LEP), which is a prescribed industrial zone for electricity generating works under *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP). Electricity generating works are permissible in the IN1 zone under Broken Hill LEP. In addition, clause 34(1)(b) of the ISEPP provides that development for the purposes of electricity generating works may be carried out by any person with development consent on land

within a prescribed industrial zone, which means that the Project is “*not permissible without development consent under Part 4 of the EP&A Act*” Further, the overhead electrical transmission line connecting to the substation is also on IN1 zoned land and would be permissible with consent either as part of the energy storage facility or as being ancillary to that facility.

Clause 20 under Schedule 1 of the SRD SEPP relates to electricity generating works with a capital investment value (CIV) of greater than \$30 million. The Project is defined as electricity generating works and the CIV for the Project is estimated at \$65 million. Therefore, the Project is classified as SSD.

Accordingly, this Scoping Report is required in order to request the Secretary's Environmental Assessment Requirements (SEARs) from the NSW Department of Planning, Industry and Environment (DPIE). The permissibility and planning approval pathway for the Project is discussed further in **Chapter 5.0** of this Scoping Report.



0 50 100 m

Legend

 Proposed Site

 TransGrid Substation

 Crown Parcel

 Land subject to Local
Aboriginal Land Claim
Claim Number: 40469
(Lot 7302/DP1181129)

Transmission Lines

199MW Silverton
WF220KV (PARF)

53MW Broken Hill Solar
Plant (PARF)

Broken Hill Battery
Connection 22kV

Overhead Powerlines
(Essential Energy)

Underground Powerlines
(Essential Energy)

Proposed Line

Proposed Corridor

Note: An easement will be
required to cross the Crown
Land Parcel (Lot
7302/DP1181129) between the
Preferred Site and the TransGrid
Substation.

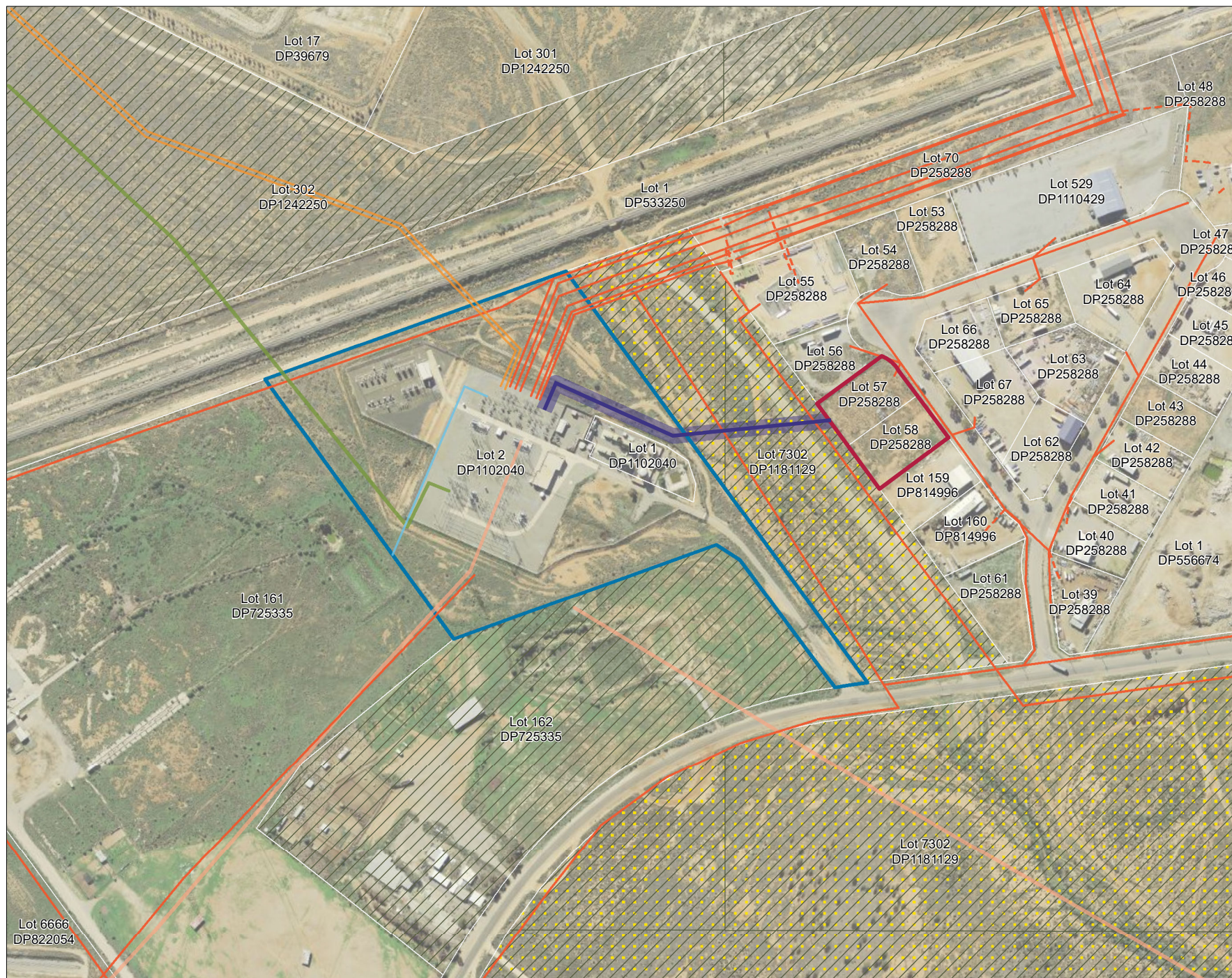
FIGURE 1: SITE LOCATION

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1.2 The Proponent

Proudly Australian for more than 180 years, AGL supplies around 4.2 million energy and telecommunications customer services. We're committed to becoming a leading multi-product retailer, making energy and other essential services simple, fair and transparent. AGL operates Australia's largest private electricity generation portfolio within the NEM, comprising coal and gas-fired generation, renewable energy sources such as wind, hydro and solar, batteries and other firming technology, and gas production and storage assets. We are building on our history as Australia's leading private investor in renewable energy to now lead the business of transition to a low emissions, affordable and smart energy future in line with the goals of our Climate Statement. We have a passionate belief in progress and a relentless determination to make things better for our communities, customers, the Australian economy and our planet.

AGL aims to prosper in a carbon-constrained world and build customer advocacy as the industry transforms, committing to exiting coal-fired energy generation and reaching zero net emissions by 2050 and continuing to develop innovative solutions for their customers. To support this ambition AGL has recently launched its updated Climate Statement which outlines five commitments:

- **“Offer customers the option of carbon neutral prices across all our products** – we will match accelerating customer demand to support decarbonisation of the energy system with a growing range of carbon neutral options
- **Support the evolution of Australia’s voluntary carbon markets** – we will explore ways through which we can participate in mechanisms to generate and supply carbon credits
- **Continue investing in new sources of electricity supply** – we will continue both direct investment and offtake agreements as we have with projects like Barker Inlet Power Station and Coopers Gap Wind Farm
- **Responsibly transition our energy portfolio** – we will continue to run our coal-fired power stations responsibly, and support our people and communities during the transition
- **Be transparent** – we will openly and transparently track our progress through our annual report and hold ourselves accountable through our remuneration structures.”

1.3 Document Structure

This Scoping Report provides an outline of the Project and identifies the key environmental issues that will be assessed as part of the Environmental Impact Statement, following the issue of the SEARs. This Scoping Report includes the following sections:

- **Chapter 1.0:** Introduction and key features of the Project
- **Chapter 2.0:** Project need and alternatives including Project objectives and justification of the preferred option
- **Chapter 3.0:** Site context and a description of the Project
- **Chapter 4.0:** Project description
- **Chapter 5.0:** Statutory Planning provisions that apply to the Project
- **Chapter 6.0:** Consultation requirements and objectives
- **Chapter 7.0:** Identification and review of environmental factors and assessment issues applicable to the Project
- **Chapter 8.0:** Conclusion
- **Chapter 9.0:** References.

2.0 Project Need and Alternatives

2.1 Project Need

The electricity sector is in the process of significant change. As the market moves away from coal, emerging technologies such as battery storage, are increasingly needed to facilitate the transition to renewable energy generation by allowing electricity to be despatched to the grid as needed. AGL currently operates the 53 MW Broken Hill Solar Plant and the 200 MW Silverton Wind Farm which both connect to the TransGrid owned substation at Broken Hill. AGL has recognised the need to provide dispatchable electricity to the NEM to facilitate the increased penetration of renewable energy into the network.

Over the past decade there has been a progressive increase in installed renewable generators within the NEM. Renewable generation (in particular wind and solar) is intermittent in nature generating when wind and solar resources are available respectively. During the same period there has been progressive retirement of thermal generators from the NEM. Of particular relevance is the planned retirement of the AGL Liddell Power Station in early 2023. Both presently and into the future, there will be a requirement to provide energy storage and firming capacity to enable the transition from thermal generation to a renewable future. The proposed Project will provide storage and firming capacity to the NEM as well as additional services to assist grid stability including frequency control ancillary services.

As such, energy storage has emerged as a key component of the decarbonisation of the Australian electrical system. Energy storage allows greater penetration of intermittent renewable energy sources while maintaining network stability and security. This is aligned with the need identified by the *Independent Review into the Future Security of the National Electricity Market: Blueprint for the Future* (the Finkel Review) (Commonwealth of Australia, 2017), that the NEM requires stable, dispatchable generation to balance network requirements as renewable generation fluctuates depending on the predominate solar and wind resources available at the time.

The potential for unserved energy and not meeting current reliability standards is projected to increase in New South Wales and Victoria after Liddell closes. In worst case scenarios this could lead to controlled load shedding or loss of supply in NSW. There is also a need for dispatchable energy generation projects to be able to respond to carbon reduction policies such as the *NSW Renewable Energy Action Plan* (NSW Trade and Investment, 2013).

The Finkel Review identified that “*Enhanced system planning will ensure that security is preserved, and costs managed, in each region as the generation mix evolves. Network planning will ensure that new renewable energy resource regions can be economically accessed*”. The Council of Australian Governments (COAG) endorsed this statement and the Australian Energy Market Operator (AEMO) subsequently prepared and released an Integrated System Plan (ISP) for the NEM in July 2020 (AEMO, 2020). The 2020 ISP is an actionable roadmap for eastern Australia’s power system to optimise consumer benefits through a transition period of great complexity and uncertainty. It does so by drawing on extensive stakeholder engagement as well as internal and external industry and power system expertise. The ISP identifies that:

“Australia’s energy sector faces a profound, complex and accelerating transition. As its traditional generators retire, Australia must invest in a modern energy systems with significant consumer-led distributed energy resources (DER) and utility-scale variable renewable energy (VRE), supported by sufficient dispatchable resources. Digitalised power system services must leverage advances in computing and data analytics to drive greater efficiencies and increase value to consumers and investors...

... Historically, Australia’s power system has been based on large-scale power stations located around fuel centres supplying remote load centres through large-scale transmission, which is how the physical assets that comprise the current NEM were designed and built. Now, the NEM, like other power systems around the world, is undergoing a rapid transition. On certain measures, the rate of change in Australia is the fastest of any country in the world. In this context, the ISP must set out an optimal development path for the NEM’s transmission assets. It does so by optimising a power system that ranges far – both technologically and geographically – over consumer-led DER investments, storage and generation investments, and demand side responses. To optimise that system, the ISP must consider the full range of energy services required to integrate new

technologies, including the vital system security services. It takes into account the capital and fuel costs of generation as well as of transmission, and opportunities for DER. It anticipates the impact of parallel shifts in coupled sectors such as transport, gas and hydrogen, and incorporates emerging innovations in consumer-owned DER, virtual power plants (VPPs), large-scale generation, energy storage and power system services."

The Project would contribute to the storage requirements identified in the ISP. Battery storage presents an opportunity to provide a secure, affordable and modern energy system for NSW, thereby placing a downward pressure on energy prices. Furthermore, battery storage technologies are anticipated to be key to the development of Renewable Energy Zones under the NSW Government's Transmission Infrastructure Strategy 2018.

Broken Hill is situated at the end of a single 250 km transmission line that runs north from the border of the State of Victoria. It currently has a maximum load of approximately 60 MW. In the event of failure of the transmission line, there are two 25 MW diesel-fired gas turbines operated by Essential Energy that are used as back-up electricity generators. The recent rapid development of renewable energy projects in south-west NSW and north-west Victoria would likely result in the curtailment of renewable energy projects and increase network losses in the Broken Hill region. AGL has recognised that the provision of a 50 MW, grid forming BESS could capture the otherwise spilt energy from the wind and solar farms that currently exist, and provide a reliable supply for Broken Hill, help support the existing transmission network and support the broader region.

2.2 Project Objectives

The objectives of the Project are as follows:

- Provide firming capability to existing renewable projects in the Broken Hill region and throughout the NEM;
- Provide islanding functionality and continue a reliable electricity supply to Broken Hill in the event of a separation from the grid;
- Capture and use curtailed energy from renewable projects connected to the substation;
- Provide dynamic voltage control services to help correct and/or stabilise the wider; transmission network; and
- Provide a new source of energy supply to support the greater penetration of intermittent renewable energy.

2.3 Project Alternatives

2.3.1 Alternative Approaches

Three options were considered by AGL. These included:

- Option one (1): a base case, or 'do nothing' approach;
- Option two (2): construct a BESS in proximity to the point of energy generation; and
- Option three (3): construct a BESS in proximity to the point of energy distribution.

Option 1: 'do nothing'

The 'do nothing' option would involve not constructing and operating a BESS at or near Broken Hill. This option would result in ongoing energy distribution issues. The projected future increase in demand for energy throughout the Broken Hill region would not be adequately addressed and would increase the risk of the following:

- Reduced availability of energy for Broken Hill and the wider region; and
- Broken Hill becoming isolated from the grid as a result of an inadequate supply of energy.

The 'do nothing' option would not meet the objectives of the Project and is therefore not considered a feasible option.

Option 2: construct a BESS in proximity to the point of energy generation

Option 2 would involve the construction of a BESS in close proximity to existing renewable energy generating projects in the region, including either:

- Broken Hill Solar Plant; or
- Silverton wind farm

Option 2 would result in the improved ability to capture curtailed energy from renewable projects and would provide firming capability to the existing renewable projects within the Broken Hill region. However, when compared to Option 3, Option 2 does not as effectively address the Project objective of improving the reliability of energy supply for Broken Hill and the wider region due to the separation of the BESS from the point of distribution. The separation of the BESS from the substation would increase the risk of potential disruptions in energy supply, which is inconsistent with the Project objectives.

Option 3: construct a BESS in proximity to the point of energy distribution

Option 3 would involve the construction of the BESS at an identified site in close proximity to the existing Broken Hill substation. Option 3 would meet the Project objectives as this option would:

- Allow for the firming capacity of renewable energy projects throughout Broken Hill and the wider region through the ability to store energy and provide it to the grid when required;
- Improve the ability for the Broken Hill region to demonstrate islanding functionality and reduce reliance on the wider NEM as a result of an increased capacity for 'on-demand' energy;
- Provide increased capacity to capture and utilise the curtailed energy from renewable projects throughout the region; and
- Provide a reliable supply of energy to Broken Hill and the wider region, reducing periods of separation from the grid as a result of energy supply disruptions.

By constructing the Project in proximity to the existing TransGrid substation, Option 3 would reduce disruptions to energy supply, and therefore achieve the Project objectives of enhancing the utilisation, reliability and efficiency of renewable energy use throughout Broken Hill and the wider region. As such Option 3 is the preferred option.

2.3.2 Site Selection

AGL identified three potential sites for the Project. The following criteria were used to identify a preferred site.

Zoning of land

Development for the purpose of 'electricity generation works' is permissible on land in a prescribed rural, industrial or special use zone in line with Division 4 of the ISEPP. The three site options were all located on land zoned as 'IN1 General Industrial', which is a prescribed zone under the ISEPP. Consequently, development at all three sites would constitute development that is permissible with consent under the EP&A Act.

Access and connection to the TransGrid substation

As mentioned above, the Project would require connection to the existing Broken Hill substation; therefore, proximity and access to the substation was a key driver in identifying the preferred site. Through identifying a preferred site in close proximity to the substation, opportunities for disruptions in the distribution of energy would be reduced. The three preferred sites had adequate access to the Broken Hill substation.

Land requirements and ancillary infrastructure

The total minimum project footprint is approximately two hectares. This consists of approximately one hectare for the construction of the Project and one additional hectare for the construction of a 22 kV transmission line from the preferred site to the Broken Hill substation. The AGL site selection process therefore assessed the availability of adequate space to construct the supporting structures, including a 20 m wide easement for the transmission line construction.

Option 3 was determined to be the preferred option on the basis that by constructing the Project in proximity to the existing TransGrid substation, Option 3 would reduce disruptions to energy supply, and therefore achieve the Project objectives of enhancing the utilisation, reliability and efficiency of renewable energy use throughout Broken Hill and the wider region. Although Option 1 and 2 did adequately address this objective (see **Section 2.2**), Option 3 addresses all of the Project objectives above as well as the goals, priorities and actions outlined in the NSW Government's *Transmission Infrastructure Strategy 2018* (The Strategy). The Strategy details the focus on establishing energy zones throughout NSW and their importance in creating an efficient and reliable supply of energy. Option 3 would support the growth of Broken Hill as an emerging energy zone, through improving the firming capacity of the region and the potential for islanding functionality.

The preferred site for Option 3, (the Site), is identified in **Figure 1** and is located at 74-80 Pinnacles Place on the following land parcels:

- Lot 57 DP 258288; and
- Lot 58 DP 258288

The Site meets the requirements identified in the site selection criteria. The Site is located on land zoned as 'IN1 General Industrial' and the Project is permissible with consent in this location. The Site is located around 200 m east of the existing substation and is separated by open, semi-vegetated land that would be suitable for the construction of a transmission line to allow for the connection of the Project to the substation. A constraints map has been prepared and provided as **Figure 2**.

2.4 Project Benefits

The Project would result in significant benefits to the State and local community. Key benefits associated with the development include:

- Improved network security and diversified energy generation offering within NSW;
- Support for increased renewable power generation during daytime peak periods, placing downward pressure on wholesale electricity prices;
- Creation of up to approximately 50 direct jobs during the peak of the Project construction phase;
- Diversification of skills and employment, and growth of the local economy during the operational phase; and
- Direct financial benefits to local businesses and the local community.



0 100 200 m

Legend

Proposed Site

Proposed Line

TransGrid Substation

Land subject to Local
Aboriginal Land Claim
Claim Number: 40469
(Lot 7302/DP1181129)

Existing Easements

Transmission Lines

Local Roads

Tracks

Railway

Watercourse

Land Use Zoning

- E2 Environmental Conservation
- E4 Environmental Living
- IN1 General Industrial
- RU2 Rural Landscape
- SP1 Special Activities
- SP2 Infrastructure

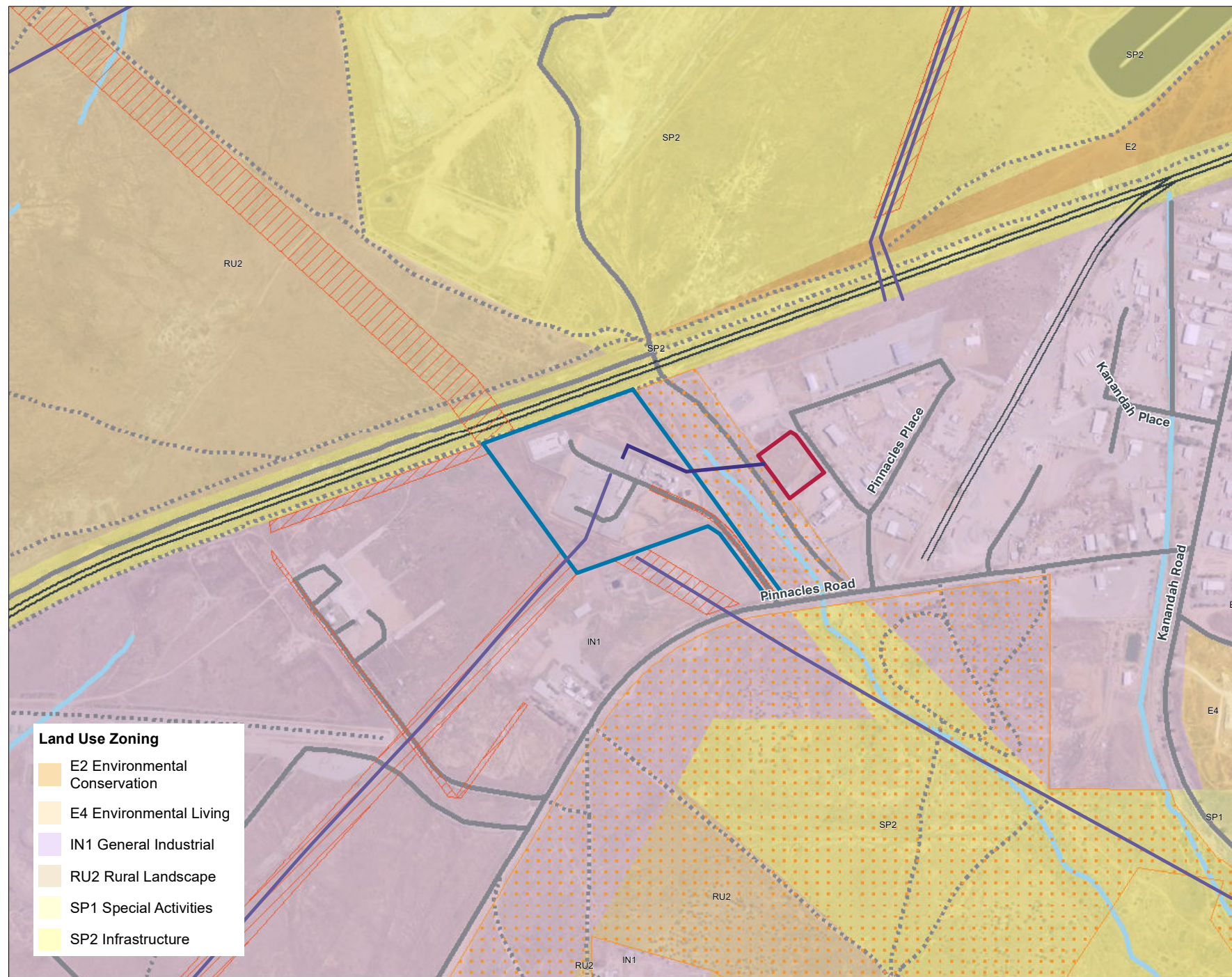
**FIGURE 2:
SITE CONSTRAINTS**

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3.0 Site Context

3.1 The Site and Local Context

3.1.1 The Site and associated land

The Site is located at 74-80 Pinnacles Place on the following land parcels:

- Lot 57 DP 258288; and
- Lot 58 DP 258288

The Site is zoned IN1 – General Industry under the *Broken Hill Local Environmental Plan 2013* (Broken Hill LEP). The Site is approximately 0.8 ha in area. Access to the Site would be from Pinnacles Place, a sealed road.

The Site is significantly disturbed and is used as a storage area for equipment, vehicles and other materials. The vegetation on the Site is in a degraded state and there is limited fauna habitat. Numerous vehicle tracks cross through this area and broad areas of bare sand also occur. **Figure 3** shows the storage of equipment at the Site.



Figure 3 Lot 58 at 74 – 80 Pinnacles Place

The Broken Hill substation is approximately 220 m west of the Site. A 22 kV transmission line would be required to connect the proposed BESS to the substation. The land that this connection would cross consists of two land parcels:

- Lot 7302 DP 1181129; and
- Lot 2 DP 1102040.

Lot 7302 includes an ephemeral north south drainage line and unsealed vehicle track. The vegetation in this area is in both a degraded and moderate condition. This land is freehold land that is owned by NSW government and is classified as Crown reserve. **Figure 4** shows a picture of the ephemeral drainage line.

The Broken Hill 220 kV substation is located on Lot 2. The vegetation outside the substation compound that might be crossed by the proposed connection appears to be in a degraded state. A connection to the busbar in the substation compound would be required as part of the Project.



Figure 4 View of the ephemeral drainage line

3.1.2 The Local Context

The Site is located approximately 2 km west of the town of Broken Hill in a semi-rural/industrial area. Industrial land uses are located adjacent to and around the Site (see Figure 5).

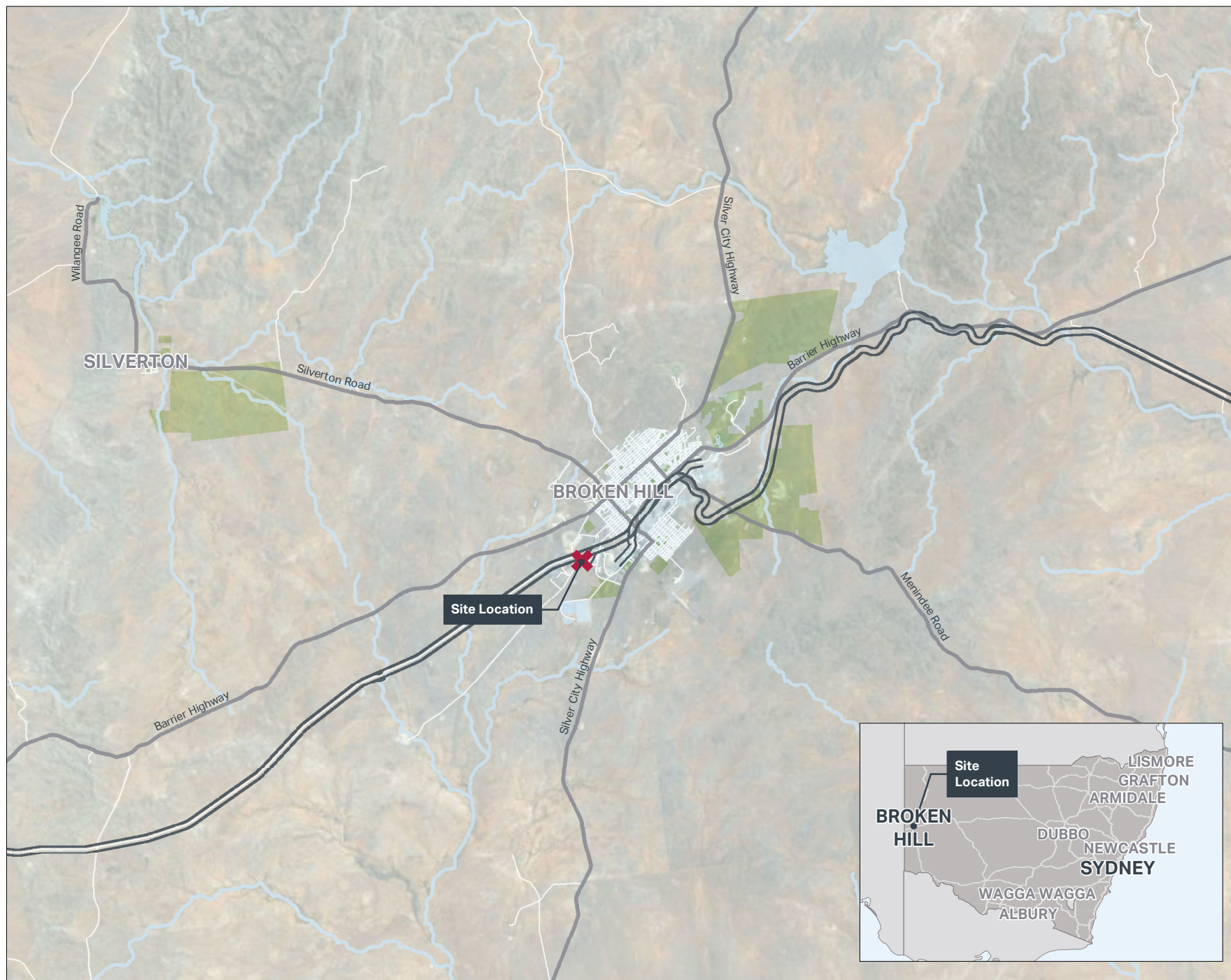
Several freight storage and handling yards are located immediately to the east, while rural properties are located to the south and east. Approximately 200 m to the north is Adelaide-Broken Hill Railway with the Broken Hill Community Recycling Centre.

Broken Hill is prominent in Australia's mining, industrial relations and economic history after the discovery of silver ore led to the opening of various mines. Several mines continue to operate in the vicinity of the Project including the mine operated by Cristal Mining Australia Limited located approximately 500 m to the west and the mine operated by Perilya Limited located approximately 1 km to the east.

The 53 MW Broken Hill Solar Plant operated by AGL was completed in 2016 and is located approximately 1.5 km west of the Project. At the time of construction the Broken Hill Solar Plant was one of the largest renewable energy facilities in Australia. In addition, AGL has completed construction of the 200 MW Silverton Wind Farm which is located 20 km North West of the Broken Hill Substation.

Legend

- ✖ Site Location
- Main Road
- Local Road
- Railway
- Water Course
- Park, Forest, Reserve



**FIGURE 5:
REGIONAL CONTEXT**

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4.0 Project Description

The Project comprises a battery storage facility with a capacity of approximately 50 MW and up to 100 MWh that would store energy from the grid. Key features of the Project include:

- Construction and operation of a BESS with a capacity of approximately 50 MW and up to 100 MWh; and
- Connection of the BESS facility to the nearby TransGrid substation via a 22 kV overhead powerline connecting through a 22 kV busbar in the substation.

The Project would be generally comprised of the following components:

- Battery enclosures;
- Inverters;
- Medium voltage transformers up to 22 kV;
- Cabling and collector units;
- Control and office building;
- 22kV electrical switchyard;
- Security fencing and lighting;
- Access, internal roads and car parking;
- Drainage and stormwater management;
- Overhead transmission connection infrastructure
- Minor works to connect the BESS to transformer compound or TransGrid switchyard; and
- Other ancillary infrastructure.

Further details regarding the Project specifics is provided in the following sections of this Scoping Report. These details are subject to further review during the design phase.

4.1.1 Battery Storage Technology and Plant

While the BESS technology provider is yet to be determined, the BESS is likely to consist of containerised or stacked Lithium-Ion type batteries with associated control systems, inverters, heating, ventilation and air conditioning units, transformers, and control rooms. An indicative concept for the Project is provided in **Figure 6**.

The majority of the facility would be no greater than approximately 10 m in height with the exception of the transmission line landing gantry which would be approximately 30 m tall. Batteries are expected to be mounted on concrete footings and be containerised or otherwise enclosed. Environmental controls for hazardous substances management suitable for the selected technology would be provided in accordance with applicable guidelines.

The BESS is intended to have an operational life of up to 20 years and, depending on the selected technology components, may be replaced and/or upgraded to extend this timeframe. Following the end of economic life, above ground components would be removed and re-purposed where possible and land rehabilitated to achieve existing conditions, if and as required.

A single-story office building and workshop area would also be included as part of the Project. The Site would be fenced and secured. A formalised access point off Pinnacles Place would be constructed to allow for the construction and maintenance of the Project. Telecommunications as well as potable and wastewater connections would be required. No water would be required for cooling; however, potable water may be required as firewater although foam is more likely to be used.

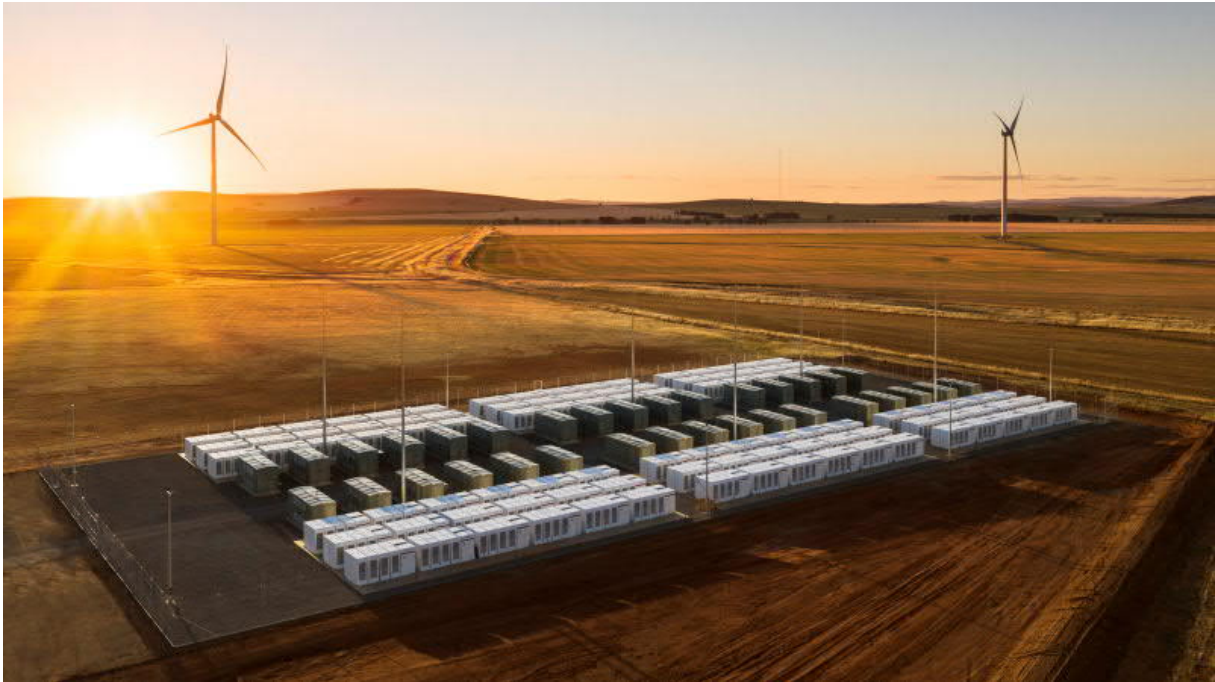


Figure 6 Hornsdale Power Reserve, South Australia (NEOEN, 2020)

4.1.2 Transmission Connection

It is proposed to construct an above ground 22 kV transmission line from the Site to the Broken Hill substation. The proposed transmission line would require the construction of associated infrastructure, including a transmission line landing gantry at the Site and connections at the substation. Supporting structures would be required to carry the 22 kV transmission line between the substation and the BESS. It is expected this transmission line would require an easement across Lot 7302 DP1181129 which is semi-vegetated open space. Works to connect the transmission line to the 22 kV busbar would also be required.

4.1.3 Access Options

Access to the preferred site would be via Pinnacles Road and Pinnacles Place, both of which are established roads and are part of the existing primary road network in Broken Hill. Temporary access roads would be required to allow for the construction of the transmission line connection. Given the land separating the Project from the substation is primarily semi-vegetated, and contains a number of informal access tracks, it is not anticipated that there would be any significant impacts involved in establishing a temporary access route in this location.

4.1.4 Operational Workforce and Hours

The Project would operate 24 hours a day, 7 days a week. It is anticipated that the Project would require between one and three full time equivalent (FTE) staff during operation. The BESS would typically be managed remotely and staffed as required during both planned and unplanned maintenance periods.

4.2 Project Construction

4.2.1 Construction Overview

It is currently anticipated that construction of the Project would take up to 12 months, starting in 2021 and being completed in 2022.

Construction works would be likely to involve:

- Installation of erosion and sediment controls and site fencing;
- Development of site access and internal/external access tracks;
- Minor benching to form BESS pad, switchyard area and construction laydown areas;
- Trenching and installation of cable from BESS to switchyard;
- Connections to surrounding utilities as required;
- Structural works to support BESS facilities;
- Construction of supporting structures, e.g. office building, workshop, and transmission line landing gantry.
- Delivery, installation and electrical fit-out of BESS;
- Construction of transmission connection between BESS and Broken Hill substation including installation of supporting structures, stringing the transmission line, and works at the transmission line landing gantry on site and the 22 kV busbar at the substation;
- Testing and commissioning activities; and
- Removal of construction equipment and rehabilitation of construction areas.

Construction laydown areas may be required to be located on sites in proximity to the Project site. Options for construction laydown areas will be explored as part of the EIS.

4.2.2 Workforce

It is anticipated that up to 50 construction staff would be required to complete the construction works.

4.2.3 Construction Hours

The proposal would be constructed during standard construction hours, where practicable. The standard hours of construction are as follows:

- Monday to Friday between 7:00am and 6:00pm
- Saturday from 8:00am to 1:00pm
- No work on Sundays or public holidays

Final construction hours would be confirmed within the EIS.

4.3 Estimated Capital Investment Value

The total estimated Capital Investment Value for the Project is approximately \$65 million.

5.0 Planning and Assessment Process

5.1 Environmental Planning and Assessment Act 1979

5.1.1 Overview

The *Environmental Planning and Assessment Act 1979* (EP&A Act) and the *Environmental Planning and Assessment Regulation 2000* (the EP&A Regulation) provide the framework for land use planning and development control in NSW. The EP&A Act and Regulation are supported by a number of Environmental Planning Instruments (EPIs), which include State Environmental Planning Policies (SEPPs) and Local Environment Plans (LEPs).

Part 4 of the EP&A Act establishes a framework for assessing development that requires consent. Part 4 of the EP&A Act categorises development as either 'exempt development', 'complying development', 'development that requires consent', or 'prohibited development'. The term 'development' is defined under Section 1.5 of the EP&A Act.

5.1.2 Permissibility

The Project meets the definition of 'development' under Section 1.5 of the EP&A Act as it involves the use of land and the erection of a building. The Project is defined under the *Standard Instrument*, as 'electricity generating works', as this definition includes a building or place used for the purpose of 'electricity storage'.

Under Division 4 of the ISEPP, and particularly clause 34 of the ISEPP, "*development for the purpose of electricity generating works may be carried out by any person with consent*" on "*any land in a prescribed rural, industrial or special use zone*". The Site is zoned as IN1 – General Industrial under the Broken Hill LEP in which electricity generating works are permissible with consent. IN1 – General Industrial is a prescribed industrial zone for electricity generating works under the ISEPP. Therefore, the Project is permissible with consent at the Site.

5.1.3 Planning Approval Pathway

The Project is classified as SSD under the EP&A Act as it satisfies the requirements of Clause 8 of the SRD SEPP, being:

- a. The development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the EP&A Act; and
- b. The development is specified in Schedule 1 or 2 of the SRD SEPP.

As discussed above, the Project is permissible with consent in the IN1 zone under Broken Hill LEP and also clause 34 of the ISEPP means that the Project is "*not permissible without development consent under Part 4 of the EP&A Act*." The Project is also "*development...specified in Schedule 1 or 2 [or the SRD SEPP]*" as clause 20 of Schedule 1 of the SRD SEPP refers to electricity generating works with a CIV of greater than \$30 million. The Project is defined as electricity generating works and the CIV for the Project is estimated at \$65 million. Therefore, the Project is classified as SSD.

Section 4.12(8) of the EP&A Act states that a 'development application for SSD is to be accompanied by an EIS prepared by or on behalf of the applicant in the form prescribed by the regulations.' Schedule 2 of the EP&A Regulation sets out the requirements of an EIS and requires that the EIS complies with the environmental assessment requirements that relate to the EIS.

This Scoping Report has been prepared to obtain the Secretary's Environmental Assessment Requirements (SEARs). These SEARs will facilitate the preparation of an EIS in accordance with Part 4 of the EP&A Act.

In line with Section 4.5 of the EP&A Act, the consent authority for the Project will be the NSW Minister for Planning and Public Spaces or the Independent Planning Commission. The SSD application will be evaluated in line with the requirements of Section 4.15 of the EP&A Act.

Environmental approvals that are not required for SSD, but which have been considered in the preparation of this Scoping Report are listed in **Table 1**.

Table 1 Relevant approvals not required under section 4.41

Approval	Comment
A permit under section 201 of the <i>Fisheries Management Act 1994</i>	The Project would not involve dredging or reclamation works.
A permit under section 205 of the <i>Fisheries Management Act 1994</i>	No works are proposed in water ways. The Project would not impact on any marine vegetation that is protected under this section.
A permit under section 219 of the <i>Fisheries Management Act 1994</i>	No works are proposed in water ways. The Project would not result in the blockage of fish passage.
An approval under Part 4, or an excavation permit under section 139, of the <i>Heritage Act 1977</i>	No non-Indigenous items were identified to occur on the site or surrounding properties according to the Broken Hill LEP or the Office of Environment and Heritage (OEH) NSW heritage register. The Project is unlikely to impact non-Indigenous heritage items (refer to Section 7.1.5).
An Aboriginal heritage impact permit under section 90 of the <i>National Parks and Wildlife Act 1974</i>	A basic search of the OEH Aboriginal Heritage Information Management System (AHIMS) register on 3 December 2019 identified 19 Aboriginal heritage sites within a 1 km buffer of the substation. There is therefore the potential for Aboriginal heritage sites to be located within the Site (refer to Section 7.1.5). Potential impacts to Aboriginal heritage would be assessed in the EIS.
A bushfire safety authority under section 100B of the <i>Rural Fires Act 1997</i>	The Site is located within designated bushfire prone area. Potential risks associated with bushfires would be assessed in the EIS (refer to Section 7.1.4).
A water use approval (section 89), a water management work approval (section 90) or an activity approval (other than an aquifer interference approval) (section 91) of the <i>Water Management Act 2000</i>	<p>The Project would not use water from a 'water source' in NSW, which means a water use approval under section 89 of the <i>Water Management Act 2000</i> (WM Act) will not be required for the Project. The Project will not involve the carrying out of any water management work as defined in section 90 of the WM Act, which means a water management works approval under that section will not be required for the Project.</p> <p>The Project may involve the construction of transmission lines between the Broken Hill Substation and the Site over the nearby mapped watercourse. This may require a controlled activity approval under section 91 of the WM Act, although being SSD any such requirement for an activity approval for the works under section 91 would not apply.</p>

Table 2 outlines each of the approvals referred to in section 4.42 of the EP&A Act and their applicability to the Project. These approvals, if required, cannot be refused if they are necessary for carrying out the SSD.

Table 2 Relevant approvals required under section 4.42

Approval	Comment
An aquaculture permit under section 144 of the <i>Fisheries Management Act 1994</i>	The Project would not involve aquaculture therefore no aquaculture permit would be required.
An approval under section 15 of the <i>Mine Subsidence Compensation Act 1961</i>	The Project is not located within a mine subsidence district.
A mining lease under the <i>Mining Act 1992</i>	Several mining lease and exploration areas cover the proposed area. Given the Project would involve only surface infrastructure and be of a limited footprint, potential impacts on future mining activities are not anticipated.
A production lease under the <i>Petroleum (Onshore) Act 1991</i>	The Project would not involve petroleum production.
An Environment Protection Licence (EPL) under Chapter 3 of the <i>Protection of the Environment Operations Act 1997</i> (for any of the purposes referred to in Section 43 of that Act)	An EPL is not required. A review of Schedule 1 of the <i>Protection of the Environment Operations Act 1997</i> (POEO Act) was conducted and the Project would not include any scheduled activities.
Consent under Section 138 of the <i>Roads Act 1993</i>	The Site is located on Pinnacles Place. Pinnacles Place is a local road owned and managed by Broken Hill City Council. The Project may require a new access point to connect the facility to the road network. AGL will consult with Broken Hill City Council to confirm the requirements of creating a new access road.
A licence under the <i>Pipelines Act 1967</i>	No pipelines would be required for the Project.

5.2 Environmental Planning Instruments

The following EPIs are considered relevant to the Project:

- *State Environmental Planning Policy (State and Regional Development) 2011*;
- *State Environmental Planning Policy (Infrastructure) 2007*;
- *State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017*;
- *State Environmental Planning Policy No.33 – Hazardous and Offensive Development*;
- *State Environmental Planning Policy No.55 – Remediation of Land*; and
- *Broken Hill Local Environmental Plan 2013*.

Each relevant EPI is discussed in further detail below.

5.2.1 State Environmental Planning Policy (State and Regional Development) 2011

The SRD SEPP applies to the whole of NSW. Its aim is to identify development that is significant to the State. As discussed in **Section 5.1.3**, the Project is declared as SSD under Clause 8 of this EPI. Clause 11 of this SEPP states that Development Control Plans do not apply to SSDs.

5.2.2 State Environmental Planning Policy (Infrastructure) 2007

The aim of the ISEPP is to facilitate the effective delivery of infrastructure across the State. The Site is zoned IN1 General Industrial under the Broken Hill LEP. This land use zone is also defined as a

'prescribed industrial zone' for the purpose of electricity generating works under Division 4 of the ISEPP. Under clause 34 of the ISEPP, the Project is considered permissible with consent at the Site.

5.2.3 State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017

The *State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017* commenced on 25 August 2017 and applies to land zoned IN1 General Industrial. The aims of the SEPP are:

- a. *To protect the biodiversity values of trees and other vegetation in non-rural areas of the State, and*
- b. *To preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation.*

Clause 7 of this SEPP provides guidance regarding the clearing of vegetation in non-rural areas that requires authority under the Policy. Of importance to this Project, Clause 7(2) under this SEPP states:

1. *A person must not clear native vegetation in any non-rural area of the State that exceeds the biodiversity offset scheme threshold without the authority conferred by an approval of the Native Vegetation Panel under Part 4.*

An investigation will be undertaken in accordance with the Biodiversity Assessment Method (BAM) to determine whether the Project exceeds the Biodiversity Offset Scheme (BOS) threshold. In the event the BOS is triggered, a Biodiversity Development Assessment Report (BDAR) will be prepared to accompany the EIS.

5.2.4 State Environmental Planning Policy No 33 – Hazardous and Offensive Development

State Environmental Planning Policy No 33 (SEPP 33) outlines the approach used in NSW for planning and assessing the risks and hazards associated with industrial development proposals. SEPP 33 applies to Projects that fall under the policy's definition of '*potentially hazardous*' or '*potentially offensive industry*'.

For development proposals classified as '*potentially hazardous industry*' the policy establishes a comprehensive test by way of a preliminary screening assessment and preliminary hazard analysis (PHA) to determine the risk to people, property and the environment. The preliminary screening assesses the storage of specific dangerous goods classes that have the potential for significant offsite effects. Specifically, the assessment involves the identification of classes and quantities of all dangerous goods to be used, stored or produced on site with respect to storage depot locations, as well as transport to and from the site. The Project is not considered '*industry*' under the definitions provided in the Broken Hill LEP 2013. Under the ISEPP the Project is defined as a type of '*electricity generating work*'. As such the Project is not '*potentially hazardous industry*' or '*potentially offensive industry*' under SEPP 33.

Nevertheless, a PHA will be undertaken in line with the Hazardous Industry Advisory Paper (HIPAPs) No 6, *Guidelines for Hazard Analysis* (DPIE, 2011) and the *Multilevel Risk Assessment guideline* (DPIE, 2011). (refer to **Section 7.1.10**).

5.2.5 State Environmental Planning Policy No 55 – Remediation of Land

The objects of *State Environmental Planning Policy No. 55 – Remediation of Land* (SEPP 55) are to provide a State-wide planning approach for the remediation of contaminated land and to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment.

SEPP 55 restricts consent authorities from issuing development consent on land that may be contaminated, unless the consent authority is satisfied that the land in question is suitable for the development proposed to be carried out or would be suitable if appropriate remediation is undertaken. The EIS would consider contamination risks (based on historic land use and other relevant matters) and appropriate mitigation measures for managing and dealing with any potential contaminated material that may be encountered on site during construction works (but which would not preclude the intended land use).

5.2.6 Broken Hill Local Environmental Plan 2013

The Project is located within the Broken Hill LGA, which is subject to the application of the Broken Hill Local Environmental Plan 2013 (LEP). The Broken Hill LEP aims to make local environmental planning provisions for land in Broken Hill in accordance with the relevant standard environmental planning instrument under section 3.20 of the EP&A Act. It is important to note that Broken Hill Council has chosen not to adopt a number of principal development standards (i.e. Part 4 of the LEP), including:

- Clause 4.3 – Height of buildings
- Clause 4.4 – Floor space ratio.

In light of this, no further consideration will be afforded to these principal development standards as part of this Scoping Report or the subsequent EIS. Instead, the clauses that will be considered include:

- Clause 2.3 – Zone objectives and land use table
- Clause 6.2 – Essential services

Each aforementioned clause of the LEP is discussed in further detail in the presiding sections of this Scoping Report.

5.2.6.1 Zone objectives and land use table

The Project is located within an area zoned as IN1 General Industrial under the Broken Hill LEP 2013. The objectives of the IN1 General Industrial land use zone include:

- *To provide a wide range of industrial and warehouse land uses*
- *To encourage employment opportunities*
- *To minimise any adverse effect of industry on other land uses*
- *To support and protect industrial land for industrial uses.*

The Project is considered consistent with the objectives of the IN1 General Industrial land use zone.

The Project is defined as ‘*electricity generating works*’, which is permitted with consent, as an innominate use, in the IN1 General Industrial land use zone under the Broken Hill LEP 2013.

5.2.6.2 Essential services

Clause 6.2 of the LEP stipulates that ‘*development consent must not be granted to unless the consent authority is satisfied that the following services that are essential for the development are available or that adequate arrangements have been made to make them available when required:*

- *The supply of water*
- *The supply of electricity*
- *The disposal and management of sewage*
- *Stormwater drainage or onsite conservation*
- *Suitable vehicular access.*

In order to achieve compliance with clause 6.2 of the LEP, the EIS will include an assessment of essential infrastructure arrangements required to service the Project.

5.3 Other NSW Legislation

Table 3 presents a list of other NSW legislation that are likely to be relevant to the Project and may either be important in terms of the future environmental assessment of the Project or because of secondary approvals.

Table 3 Other relevant NSW legislation

Legislation	Relevance to the Project
National Parks and Wildlife Act 1974	<p>The <i>National Parks and Wildlife Act 1974</i> (NPW Act) regulates the management and conservation of land declared as national parks and conservation areas, as well as regulating the management of Aboriginal cultural heritage objects.</p> <p>A permit is required under section 90 of the NP&W Act before harming or desecrating an Aboriginal object, otherwise, such action is an offence under the NP&W Act. Despite this, under Section 4.41 of the EP&A Act, an Aboriginal Heritage Impact Permit is not required for SSD. The potential impact of the Project on Aboriginal cultural heritage values along the preferred alignment will be assessed within an Aboriginal Cultural Heritage Assessment Report (ACHAR) and submitted as part of the EIS.</p> <p>No part of the Project is expected to fall within NSW National Parks owned or managed lands.</p>
Aboriginal Land Rights Act 1983	<p>The <i>Aboriginal Land Rights Act 1983</i> provides rights for Aboriginal persons in New South Wales and establishes Aboriginal Land Councils. The Project would be located in the Broken Hill Local Aboriginal Land Council (LALC) area. A land claim has also been lodged over the Crown land including that part of the land where the electrical transmission line is likely to be constructed. The claim was lodged by NSW Aboriginal Land Council under the Aboriginal Lands Rights Act 1983.</p>
Water Management Act 2000	<p>The <i>Water Management Act 2000</i> (WM Act) establishes a framework for managing water in NSW. Section 91 of the WM Act discusses activity approvals and notes that there are two types of approvals, namely controlled activity approvals and aquifer interference approvals.</p> <p>The WM Act specifies certain activities as controlled activities when carried out on waterfront land. This is defined as within 40 m of the banks of a river, lake or estuary. The Site is located in a predominantly cleared area with a ephemeral watercourse to the west of the Site. It is likely that some overland flows from the Site may drain to the ephemeral watercourse, which heads south and eventually joins into Kelly's Creek.</p> <p>A controlled activity approval would not be required by virtue of Section 4.41 of the EP&A Act. This Section specifies certain approvals that are not required for SSD, including an activity approval (other than an aquifer interference approval) under section 91 of the WM Act. Despite this provision this section of the Act does not remove the requirement for obtaining an aquifer interference approval. As such, an aquifer interference approval may still be required should the construction of the Project intercept groundwater (e.g. during excavation and benching).</p>

Legislation	Relevance to the Project
Protection of the Environment Operations Act 1997	<p>The <i>Protection of the Environment Operations Act 1997</i> (POEO) Act provides for the issue of an Environment Protection Licence (EPL) for premises based scheduled activities pursuant to section 48 of the POEO Act, and non-premises based scheduled activities pursuant to section 49 of the POEO Act.</p> <p>Schedule 1 of the POEO Act provides a list of activities for which an EPL would be required. Clause 17 of this Schedule applies to 'electricity generation' and lists four activities. However, the Project does not involve the generation of electricity. The Project stores and releases electricity that has already been generated. As such Clause 17 does not apply to the Project and an EPL is not required.</p> <p>The POEO Act has a number of regulations relating to waste, air quality, noise etc. If relevant, the specifics of these regulations would be considered as part of the environmental assessments within the EIS.</p>
Biodiversity Conservation Act 2016	<p>The <i>Biodiversity Conservation Act 2016</i> (BC Act) contains provisions for the assessment of impacts on biodiversity values of a proposed development, providing measures to calculate biodiversity offsets for these impacts and establishing market-based conservation measures, including biodiversity credits.</p> <p>A Biodiversity Development Assessment Report (BDAR) will be prepared for the Project. This report will describe the biodiversity values present within the Site and identify potential impacts of the Project on these values. If applicable, this assessment will use the Biodiversity Credit Calculator (BCC) as required under the NSW Biodiversity Assessment Methodology (BAM)</p>
Heritage Act 1977	<p>The <i>Heritage Act 1977</i> (NSW) aims to promote an understanding, encourage conservation and provide for protection of NSW State heritage. State and/or local heritage significance can relate to historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic values of a place, building, work, relic, moveable object or precinct.</p> <p>A search of available non-Indigenous heritage databases identified that the closest listed item of non-Indigenous heritage to the Project is the Old Broken Hill City Abattoir (I100); located approximately 800 m south-east of the Site.</p> <p>Due to the distance of the Project from the nearest non-Indigenous heritage item, it is not anticipated that the Project would have an adverse impact upon non-Indigenous heritage.</p>

5.4 Strategic planning

5.4.1 Transmission Infrastructure Strategy 2018

The NSW Transmission Infrastructure Strategy is the NSW Government's plan to unlock private sector investment in priority energy infrastructure projects, which can deliver least-cost energy to customers to 2040 and beyond. The strategy outlines that although in October of 2018 more than 20,000 megawatts of large-scale Projects were progressing through the planning system, representing more than \$27 billion in potential investment, for every 20 Projects looking to connect to the grid only one is successful.

This Project would help to create additional capacity and redundancy within the local electricity grid to support the principles of the strategy, including:

- Lowering energy bills;
- Taking a technology neutral approach to new generation projects;
- Encouraging private sector led investment;

- Regional economic growth and job opportunities; and
- Providing ongoing secure and reliable energy.

5.4.2 NSW Electricity Strategy 2019

The NSW Electricity Strategy is the NSW Government's plan for a reliable, affordable and sustainable electricity future. The strategy outlines three approaches for the NSW government to meet these objectives:

- Support the market to deliver reliable electricity at the lowest price, while protecting the environment;
- Set an Energy Security Target to ensure that the State has sufficient generation capacity to cope with unexpected generator outages during periods of peak demand, such as during heat waves; and
- Ensure the State has sufficient powers to deal with an electricity emergency, if one arises.

The strategy outlines that the cheapest and most efficient way to develop a modern and complex energy system and to replace coal-fired generators is to build a mix of low-cost renewables, gas-fired generators and other storage like batteries and pumped hydro. The Project, being a commercial scale energy storage system, would support the transition of the NSW energy grid to a modern complex energy system in line with the objectives of the NSW Electricity Strategy. **Figure 7** identifies the processes of the modern complex energy system.

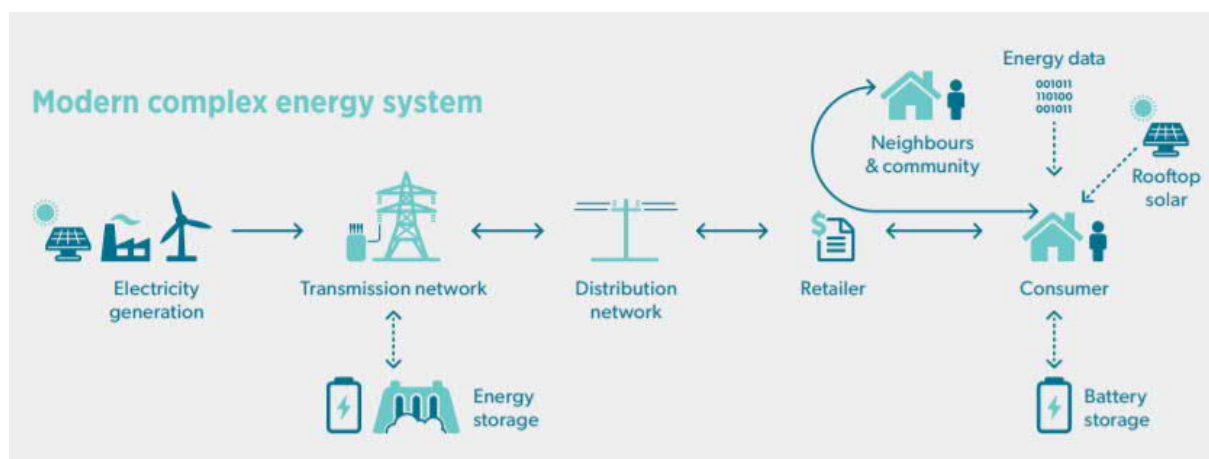


Figure 7 Example of a modern complex energy system (DPIE, 2019)

5.5 Commonwealth environmental approvals

5.5.1 Environment Protection and Biodiversity Conservation Act 1999

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) requires the approval of the Commonwealth Minister for the Environment for actions that may have a significant impact on Matters of National Environmental Significance (MNES). Approval from the Commonwealth Minister is in addition to any approvals under NSW legislation.

The EPBC Act lists nine MNES that must be addressed when assessing the environmental impacts of a proposal. These matters are:

- World heritage properties;
- National heritage places;
- Ramsar wetlands of international significance;
- Threatened species and ecological communities;
- Migratory species;

- Nuclear actions (including uranium mining);
- Commonwealth marine areas;
- Great Barrier Reef Marine Park; and
- A water resource, in relation to coal seam gas development and large coal mining development.

The EPBC Act also requires Commonwealth approval for any activity that will, or is likely to have, a significant impact on Commonwealth land. The land on which the Project will be constructed is not Commonwealth land, and there is no Commonwealth land within close proximity to the Project that could be impacted by the construction or operation of the Project.

A search of the EPBC Act Protected Matters Search Tool was undertaken on 3 September 2020 for a 10 km buffer around the Site. The search identified one National Heritage Place, 10 threatened flora and fauna species and eight listed migratory species with potential to occur within 10 km of the Site.

The results of a Protected Matters search for MNES within 10 km of the site are provided in **Table 4**. The Protected Matters search can be viewed in **Appendix A**.

Table 4 MNES within 10 km of the Project

MNES	MNES within 10 km of the Project
World Heritage Properties	None
National Heritage Place	1
Wetlands of International Importance	None
Great Barrier Reef Marine Park	None
Commonwealth Marine Area	None
Listed Threatened Ecological Communities	None
Listed Threatened Species	10
Listed Migratory Species	8

It is considered unlikely the Project would adversely impact upon any of the identified MNES and represent a Controlled Action under the EPBC Act. As part of the EIS, a review of the potential impacts of the Project would be undertaken. Following the review of potential impacts a referral will be made to the Commonwealth Department of Agriculture, Water and Environment under the EPBC Act.

6.0 Consultation

AGL seeks to establish and maintain authentic relationships with the community and interested stakeholders through consultation and effective communications from an early stage of the Project. This is to ensure the community are meaningfully included during the feasibility, planning and development phases. AGL will inform the local community and stakeholders at key milestones as the Project progresses, with the aim to demonstrate our commitment to transparency and accountability.

The Project is not expected to generate significant stakeholder interest due to the anticipated low level of impact. In addition, AGL has existing strong relationships with key local stakeholders due to ongoing community relations activities from the Broken Hill Solar Plant and Silverton Wind Farm. Stakeholder engagement is expected to be targeted at keeping neighbours and key local stakeholders informed of the assessment process and anticipated Project activities such that questions can be identified and mitigated throughout the design process.

The outcomes of consultation will be included in the EIS and relevant technical studies.

6.1 Consultation Objectives

The objectives of AGL's community engagement relating to the Project are to:

1. **Communicate and engage with community members at an early stage** to ensure the community feel meaningfully included during the feasibility, planning and development phase.
2. **Inform the local community and stakeholders** of upcoming milestones or key decision points, demonstrating our commitment to transparency and accountability.
3. **Educate the local community and stakeholders** through providing adequate explanations and information regarding how batteries contribute to the renewable energy transition.
4. **Minimise outrage or negative sentiment** by identifying potentially impacted groups and individuals, and working with them authentically to address their concerns.
5. **Establish a strong social licence to operate** by understanding and meeting community expectations.
6. **Understand how AGL can positively contribute to the community** for the lifespan of the project and beyond, with engagement activities each year.
7. **Meet regulatory community engagement requirements** required for the development application process.

6.2 Community and Stakeholder Engagement Plan

AGL will develop a community and stakeholder engagement plan (plan) for the EIS once SEARs are received. The outcomes of consultation will be included in the EIS and relevant technical studies. The purpose of the plan is to ensure ongoing engagement and effective communication with key stakeholders and the community.

6.3 Government Agencies and Non-Government Stakeholders

6.3.1 Consultation Undertaken

AGL has undertaken a suite of consultation to date on the Project with Government Agencies and Non-Government Stakeholders. The consultation undertaken, and feedback received, is outlined in **Table 5**.

Table 5 Government Agencies and Non-Government Stakeholders consultation summary

Stakeholder	Method	Date	Feedback	Comments
Federal Member for Parkes, Mark Coulton MP	Phone meetings	December 2019 and	Positive	Mr Coulton, welcomed the update and was pleased about the Project being built in the Parkes electorate

Stakeholder	Method	Date	Feedback	Comments
		September 2020		with a particular interest in the number of jobs that would be generated during construction.
NSW State Member for Barwon, Roy Butler MP	Phone meetings	December 2019 and September 2020	Positive	Mr Butler was grateful for the update and asked to be briefed regularly about progress of the Project. He also requested that the local community in Broken Hill is engaged during preparation and in advance of the exhibition of the EIS.
Broken Hill City Council Board – Mayor Darriea Turley and (then) General Manager James Roncon	Phone meetings	September 2020 and November 2020	Positive	Ms Turley and Mr Roncon were pleased that AGL's proposal would align with Council's renewable energy objectives. They asked about job creation related to construction and operation of the Project and asked to be briefed regularly as planning for the Project progresses.
Broken Hill Local Aboriginal Land Council – Chairperson Jarred Menz and (then) Chief Executive Officer Annette Ohlsen	Phone meetings and email	September 2020 - November 2020	Positive	<p>The BHLALC Board endorsed the Project and asked that AGL:</p> <ul style="list-style-type: none"> work with BHLALC on an Aboriginal employment strategy and tender selection criteria or be included in the selection panel engage with BHLALC on the required skills for the Project and review AGL's draft Reconciliation Action Plan reimburse BHLALC for costs associated with meetings held about the Project during the lifetime of the Project engage BHLALC to survey the Site by at least 2 BHLALC Aboriginal Site Officers and engage the services of an archaeologist when requested or required work with BHLALC in developing an Aboriginal Heritage Management Plan which would include the findings of a site survey. <p>AGL has also placed Aboriginal Cultural Heritage notifications in local publications to seek input from Aboriginal community members about the Project.</p>
NSW Aboriginal Land Council – Robert Kelly Senior Land Rights Officer and previously Troy	Phone meetings and email	September 2020 – November 2020	Neutral	NSW Aboriginal Land Council outlined the process to enable an easement on Crown Lands where there is the undetermined Aboriginal Land Claim. They

Stakeholder	Method	Date	Feedback	Comments
Lancaster Land Rights Officer				instructed AGL to liaise with the BHLALC regarding the land and advised that there is a standard practice for a 'no objection' to an activity to Crown Lands.
TransGrid	Formal connection enquiry, phone meetings and email	November 2019 and ongoing	Neutral	AGL made a formal enquiry for connection to the Broken Hill Substation. TransGrid have provided a connection enquiry response letter and Preliminary Impact Assessment detailing the works required to connect to the transmission system. AGL is also progressing a Connection Process Agreement with TransGrid.
Crown Lands	Phone meetings and email	September 2020 – October 2020	Neutral	Crown Lands provided advice about the Aboriginal land claim stating that the claimant, Aboriginal Land Council, should provide consent to Crown Lands when making the application for an easement.

DPIE will provide this Scoping Report to relevant NSW Government agencies and Broken Hill City Council for their comment to inform the development of the SEARs for the Project.

6.3.2 Consultation During and Following EIS Exhibition

NSW and Federal members will continue to be informed early about the Project and notified of any significant milestones.

Relevant NSW Government agencies, Broken Hill City Council and the Broken Hill Local Aboriginal Land Council will continue to be engaged during preparation of the EIS and will be provided an opportunity to comment on the Project during exhibition of the EIS. AGL will continue consulting with these stakeholders following the EIS exhibition and will be notified of significant Project milestones.

6.4 Community and Other Stakeholders

6.4.1 Consultation Undertaken

AGL advised adjacent neighbours as well as the nearest residential neighbour about the Project in November 2020. This consultation included:

- AGL briefed the nearest residential neighbour of the Site. He was grateful for the update and pleased to know that AGL is investing in batteries and renewables. He also asked that AGL brief him regularly as the Project progresses.
- AGL discussed the Project with the neighbours adjacent to the TransGrid substation. The neighbours supported early environmental surveys for the Project.
- AGL also advised neighbours adjacent to the Site about the Project and have not received feedback.

AGL will consult with the broader community during preparation and in advance of the exhibition of the EIS.

6.4.2 Consultation during and following EIS exhibition

As SSD, the Project would be placed on public exhibition in accordance with the requirements of the EP&A Act. A detailed community and stakeholder engagement plan is being developed that will be implemented once the EIS preparation commences.

7.0 Key and Other Environmental Matters

An initial high-level review of potential issues for consideration in the EIS has been undertaken to determine the likely level of assessment required to adequately and appropriately address each matter. In undertaking the initial screening, consideration has been given to the significance of potential environmental impacts for each environmental matter (through a preliminary environmental risk screening) and also to the likely level of stakeholder interest. The inclusion of stakeholder perceptions of potential environmental impacts is considered an important part of determining the level of assessment that should be applied, given that key stakeholder concerns may not necessarily align with a purely technical analysis of environmental risks.

By combining the likely significance of each identified environmental matter with the expected level of stakeholder interest, an assessment has been made as to whether each matter is integral to the assessment of the Project, and whether a detailed specialist assessment or desktop analysis would be appropriate to support the application.

7.1 Environmental Aspect Identification

Following a review of the Project, its location and the sensitivities of the Site and surrounding area, a number of potential impacts relating to the following environmental matters were identified. The environmental matters identified for further consideration include:

- Soils, groundwater and contamination;
- Surface water, flooding and water use;
- Biodiversity;
- Bushfire;
- Heritage;
- Transport and access;
- Noise and vibration;
- Air quality;
- Landscape and visual;
- Hazards and risk;
- Waste management; and
- Social and economic.

A review of the baseline conditions for each of these matters has been undertaken to identify sensitive community and environmental receptors and potential impacts that could occur from the Project. Each aspect is described in the sections below.

7.1.1 Soils, Groundwater and Contamination

7.1.1.1 Existing Environment

The Site is not mapped under the Broken Hill LEP to be affected by Acid Sulfate Soils. The Australian Soil Map Classification identifies soils in the vicinity of the Site as being characterised as Sodosols (DPIE, 2012). Sodosols are soils with a strong texture contrast between A horizons and sodic B horizons, which are not strongly acidic (CSIRO, 2016). Due to the strong texture contrast, sodosols are known to experience erosion. This is supported by the nearby soil profile located at the White Leeds Station (1000379), approximately 700 m west, which identified moderate sheet erosion during soil investigations.

A search of the NSW Environment Protection Authority (EPA) list of notified sites and record of notices identified a number of contaminated sites within the Broken Hill region. The nearest listed sites include the former Caltex Depot and Tasco Petroleum Depot located at 3 and 5 Kanandah Road, respectively and approximately 800 m east of the Site.

The area around Broken Hill is located in the Adelaide Fold Belt groundwater management area and is subject to the *Murray Darling Basin Fractured Rock Groundwater Sources Water Sharing Plan* (DPI, 2011). This plan governs the groundwater extraction licences and limits. Due to the location of the Site adjacent to a small ephemeral watercourse, there is the potential for groundwater to be encountered.

7.1.1.2 Issues for consideration

During the construction of the Project there is potential for sedimentation and erosion to occur as a result of exposed soils. An assessment of the controls necessary to appropriately manage sediment and erosion risks and stormwater runoff during the construction stage would be provided in the EIS. If not adequately managed, the Project may impact local surface water through erosive action and sedimentation, which also may result in changes to the existing surface run-off and flow regimes, as well as aquatic habitats. Excavation and other earthworks, if not adequately managed, could result in the following impacts:

- Erosion of exposed soil;
- Dust generation from excavation and vehicle movements over exposed soil; and/ or
- Increase in sediment loads entering the stormwater systems and/or local runoff.

The Site has been used to store vehicles, equipment and other materials and may have some localised soil contamination. Excavation and other earthworks have the potential to expose contaminants if they are present, which if not appropriately managed, can present a health risk to construction workers and the community. Contaminants can also pose an environmental risk if they are to enter the nearby ephemeral watercourse. Additionally, construction and operational activities have the potential to release materials which could contaminate soils, for example, hydraulic fluid from construction plant and machinery. Chemical spills have the potential to result in contamination of groundwater (for example, the accidental release of hydraulic fluids during construction work, both at ground level and within excavations).

7.1.1.3 Environmental Impact Assessment

Ground investigations would be completed to confirm the geotechnical and environment characteristics of the soils and the presence of groundwater across the Site and to confirm whether the Site is suitable for the Project in line with SEPP 55 (refer to **Section 5.2.5**). This information and a review of historical site information would be used to understand whether the soils or groundwater could be contaminated. Potential receptors and impacts related to the mobilisation of soils and contamination would be identified as part of the assessment. Depending on the outcomes of this assessment management measures would be developed for potential impacts.

The depth and nature of groundwater at the Site would be reviewed and compared to the characteristics of the Project. A desktop assessment of potential impacts to groundwater would be completed to determine potential interactions with and impact to groundwater and potentially contaminated groundwater. If dewatering is required, this will also be assessed.

7.1.2 Surface Water, Flooding and Water Use

7.1.2.1 Existing Environment

The Site is located in a predominantly cleared area with an ephemeral drainage line to the west of the Site. It is likely that some overland flows from the Site may drain to the ephemeral drainage line, which heads south and eventually joins into Kelly's Creek. Kelly's Creek eventually drains into Pine Creek approximately 11 km south of the Site.

The *Broken Hill Urban Stormwater Master Plan* (Tonkin, 2006) indicates that Broken Hill experiences an average annual rainfall of 253 mm, occurring on an average of 48 days each year. Broken Hill City Council have characterised the rainfall during the summer months to be predominantly of high intensity, short duration events rather than prolonged periods of precipitation.

7.1.2.2 Issues for Consideration

As discussed in **Section 7.1.1.1** of this Scoping Report, excavation and other earthworks have the potential to expose and mobilise soils and contaminants into drainage lines.

Due to the periods of short, intense rainfall in the summer months, there is the potential for localised flooding to be experienced across the Site from the nearby ephemeral watercourse. An assessment of flooding and its potential impact on the Project would be included in the EIS.

The operation of the Project would require the use of water for asset protection. This usage would not be used to cool the Project and therefore is expected minor and unlikely to reduce water availability for the town of Broken Hill.

7.1.2.3 Environmental Impact Assessment

Surface Water and Flooding

The EIS would qualitatively describe and assess how stormwater and surface water flows would be managed at the Site during construction and operation, where necessary mitigation measures would be recommended to manage potential impacts to nearby surface water values. The EIS would also qualitatively investigate the potential for flooding events to impact upon the Project and suggest measures to manage potential flood risks.

Water Use

Measures to minimise water use would also be investigated. Wastewater generated during construction would vary depending on construction activity but could result from dust suppression activities, washdown areas and stormwater runoff from construction ancillary facilities. Construction water would be reused on site wherever feasible.

7.1.3 Biodiversity

7.1.3.1 Existing Environment

Vegetation surrounding the Broken Hill substation has been mapped as the Plant Community Type (PCT) 155 *Bluebush shrubland on stony rises and downs in the arid and semi-arid zones* (DPIE, 2019). Historical use of the surrounding area, including recent vegetation clearing and use of areas for equipment storage, has resulted in significant disturbance of this PCT in the surrounding area.

A site inspection was undertaken that identified small areas (approx. 2.61 ha) of PCT 155 that remain in a moderate condition close to the ephemeral watercourse but outside of the Site.

Six identified threatened State fauna species and one threatened State flora species are considered moderately likely to occur in the vicinity of the Site (refer to **Table 6**).

Table 6 Threatened species moderately likely to occur in the study area.

Scientific name	Common name	BC Act	EPBC Act
<i>Acacia notabilis</i>	Mallee Golden Wattle	E	
<i>Amytornis modestus</i>	Thick-billed Grasswren	CE	CE
<i>Calamanthus campestris</i>	Rufous Fieldwren	V	
<i>Notomys fuscus</i>	Dusky Hopping-mouse	E	V
<i>Pseudonaja modestus</i>	Ringed Brown Snake	E	
<i>Pyrrholaemus brunneus</i>	Redthroat	V	
<i>Sminthopsis macroura</i>	Stripe-faced Dunnart	V	

7.1.3.2 Issues for Consideration

It is likely that the area of PCT 155 in moderate condition could be avoided by the Project by micro siting the transmission line around this community. As such it is unlikely that this area of PCT would be impacted by the Project.

Areas of PCT 155 in poor condition and areas that could potentially be utilised by threatened fauna may, however, be directly affected by construction of the Project.

7.1.3.3 Environmental Impact Assessment

The assessment of the potential impacts of the Project on ecological values would be completed in line with the NSW Biodiversity Assessment Method (BAM) and would be documented within a Biodiversity Development Assessment Report (BDAR) as required by the *Biodiversity Conservation Act 2016*. This would build on the preliminary biodiversity work undertaken to inform this Scoping Report.

To inform the BDAR, further review of background ecological information would be undertaken and, if necessary, additional ecological surveys. A likelihood assessment would be completed and the potential for the Site and potentially affected area to contain threatened biota confirmed. The potential impact of the Project on relevant threatened biota would be completed in line with the BAM where necessary measures would be identified to avoid or mitigate potential impacts.

As part of the EIS, a review of the potential impacts of the Project would be undertaken. Following the review of potential impacts a referral will be made to the Commonwealth Department of Agriculture, Water and Environment under the EPBC Act. Weed control measures would also be developed to manage the potential dispersal and establishment of weeds during construction. This would include the management and disposal of weeds in accordance with the *Biosecurity Act 2015*.

7.1.4 Bushfire

7.1.4.1 Existing Environment

A search of available bushfire prone land mapping identified that the Site and potential route of the connecting transmission line is categorised as Vegetation Category 3 bushfire prone land.

7.1.4.2 Issues for Consideration

The Project has the potential to both impact and be impacted upon potential bushfires. Measures to minimise risks to proposed infrastructure, including firefighting equipment and asset protection zones would be provided within the EIS.

7.1.4.3 Environmental Impact Assessment

As the Project is located on an area of bushfire prone land, a Bushfire Impact Assessment will be prepared for the EIS in accordance with the requirements of *Planning for Bush Fire Protection 2019* and, where necessary, *Australian Standard 3959 – 2009 Construction of buildings in bushfire prone area*. The assessment will provide an assessment of likely bushfire hazards within 140 m of the Site as required by legislation. Constraints and opportunities available to optimise the proposed development with respect to bushfire requirements would be identified, including the potential for asset protection zones, access provisions for fire services, service supply, emergency management planning and other bushfire mitigation matters which may be relevant to the Project.

7.1.5 Heritage

7.1.5.1 Existing Environment

A search of available non-Indigenous heritage databases identified that the closest listed item of non-Indigenous heritage to the Project is the Old Broken Hill City Abattoir (I100); located approximately 800 m south-east of the Site.

A search of the Aboriginal Heritage Information Management System (AHIMS) with a 1 km buffer surrounding the Project identified 19 recorded Aboriginal sites.

A land claim has also been lodged over the Crown land including that part of the land where the electrical transmission line is likely to be constructed. The claim was lodged by NSW Aboriginal Land Council under the Aboriginal Lands Rights Act 1983 (refer to **Section 6.0** regarding ongoing consultation on this matter).

7.1.5.2 Issues for Consideration

Due to the distance of the Project from the nearest non-Indigenous heritage item, it is not anticipated that the Project would have an adverse impact upon non-Indigenous heritage.

Given the number of identified Aboriginal heritage sites in the vicinity of the Project, there is the potential that Aboriginal heritage values may be present at the Site.

7.1.5.3 Environmental Impact Assessment

An Aboriginal heritage assessment would be included in the EIS and would be undertaken in accordance with OEH's *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* and *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW*. As such, archaeological survey of the Site and transmission line connection, as well as consultation with the Broken Hill Local Aboriginal Land Council is anticipated to be required and documented in an Aboriginal Cultural Heritage Assessment Report that will be submitted with the EIS.

7.1.6 Transport and Access

7.1.6.1 Existing Environment

The Project is located on Pinnacles Place, which is a local road managed by Broken Hill City Council. There are no pedestrian footpaths or crossings located on Pinnacles Place, and the Site is not serviced by public transport.

The nearest classified road is Wentworth Road/Silver City Highway, (B79) and located approximately 2.3 km by road south of the Site. The Silver City Highway provides a connection to the wider road network and extends to Mildura in the south. Other major roads providing connectivity to Broken Hill include the Barrier Highway (A32), providing a connection to the east through Cobar to Nyngan and to the west, across the South Australian border at Cockburn to Adelaide.

7.1.6.2 Issues for Consideration

Construction activities would generate movements of light and heavy vehicles to and from the Site via the wider road network. This would include heavy vehicles used for the transport of equipment and of materials, excavators, concrete trucks, and light vehicles used by construction personnel. Construction of the Project may result in additional traffic movements through the town; however, these would be limited to up to 50 private vehicle movements and a smaller number of heavy vehicles movements bringing construction materials and plant to the Site and removing wastes.

Access to the Site would be established by formalising access from Pinnacles Place as part of the Project. Access for constructing the transmission line and related infrastructure between the Site and the substation would be along various sealed and unsealed access tracks on the Crown reserve and TransGrid owned land. Further details related to access would be outlined within the EIS.

It is anticipated that construction haulage routes would be from Adelaide via the Barrier Highway, Creedon Street, Kanandah Road and Pinnacles Road.

Operational traffic volumes are anticipated to be limited due to the minimal requirement for operational staff.

7.1.6.3 Environmental Impact Assessment

A qualitative assessment of potential construction traffic impacts will be completed as part of the EIS. A quantitative assessment is not considered necessary as potential impacts would be limited to the construction phase. Vehicle volumes associated with construction of the Project are relatively low given no oversized vehicles are likely to be required and it is unlikely that the roads connecting the Site to the wider road network are at capacity.

The qualitative assessment of potential construction traffic impacts would review previous traffic impact assessments and traffic counts undertaken for the surrounding area as well as any information available on road safety for the surrounding road network. Consultation with Transport for NSW and Broken Hill City Council will be undertaken, and a high-level assessment of potential traffic impacts will be completed. Mitigation measures would be identified as required.

No operational traffic assessment will be completed due to the low numbers of operational staff.

7.1.7 Noise and Vibration

7.1.7.1 Existing Environment

The existing ambient noise sources are from vehicle traffic on Pinnacles Road, train movements on the railway line, surrounding freight handling and storage activities and intermittent vehicle movements through private properties and on local public and private roads.

The majority of the neighbouring land uses are industrial or commercial in nature. The majority of residences are located in the township of Broken Hill approximately 2 km distant from the Site. The closest residential dwelling to the Project is approximately 1.7 km north-east of the Site.

7.1.7.2 Issues for Consideration

The construction of the Project is not anticipated to have a significant noise impact given the existing background noise levels from the surrounding industrial activities and the nearby road and rail network. The closest residential dwelling is also a significant distance from the Project. Notwithstanding, construction noise would be minimised as far as practicable with the implementation of appropriate management measures, if required.

A construction noise impact assessment would be undertaken as part of the environmental assessment to assess potential noise impacts to nearby industrial receivers. The assessment would be undertaken in accordance with the Interim Construction Noise Guideline (ICNG) (DECC, 2009) and be of a quantitative nature.

The operation of the Project is expected to have minimal or negligible noise impacts given the nature of the Project and the surrounding industrial land uses.

7.1.7.3 Environmental Impact Assessment

Background noise levels would be based on the minimum assumed rating background noise levels (RBLs) recommended in the Noise Policy for Industry (NPfI) guideline (EPA, 2017). The RBLs would facilitate the determination of the noise and vibration emission criteria applicable to the construction and operation of the Project.

Construction

The ICNG is the principal guidance for the assessment and management of construction noise in NSW. The ICNG recommends that a quantitative assessment is carried out for all major construction projects that are typically subject to the environmental impact assessment process. Construction noise scenarios would be developed based on the typical plant and equipment that would be operating during the main phases of construction. These would then be assessed in a SoundPLAN model to determine potential impacts at nearby receivers (including industrial and commercial receivers).

The results of construction noise and vibration assessment would be compared against management levels derived in accordance with the ICNG. Reasonable and feasible noise mitigation measures would be applied to the construction works. A qualitative assessment of the potential for vibration impacts resulting from the Project would be provided in the EIS.

Operation

Operational noise impacts from the Project would be broadly assessed in accordance with the NPfI. Project specific noise trigger levels would be established to meet the requirements of the NPfI. The main operational noise sources associated with the Project would be the inverters and transformers. Operational noise scenarios would be developed using SoundPLAN and an assessment completed of the likely noise impacts on nearby receivers. Given the distance to residential receivers it is unlikely that there would be exceedances of the trigger levels. There are a number of closer commercial/industrial receivers. Where necessary noise mitigation measures would be recommended to meet the project specific noise trigger levels at these receivers.

7.1.8 Air Quality

7.1.8.1 Existing Environment

The Bureau of Meteorology (BoM) records long-term meteorological data at a number of automatic weather stations around the country. The BoM station that best represents the region is located at Broken Hill Airport, approximately 4.5 km south-east of the Site.

The warmest temperatures recorded occur between November and March, with the warmest average maximum temperatures occurring in January (33.7°C). The coldest temperatures are recorded in the winter months, with the lowest average minimum temperature occurring in July (4.8°C).

The highest average rainfall is recorded in January (28.1 mm), while June is the driest month (15.0 mm). Wind speeds are typically highest during spring with average 9 am and 3 pm wind speeds exceeding 20 km/h with the lowest wind speeds occurring during the winter.

The regional air quality is expected to be reasonably high due to the predominance of rural land uses, low population density, and limited number of large urban centres. The State of the Environment supplementary report for the Broken Hill Local Government Area (LGA) notes that the two most prevalent air quality issues are dust (particularly dust containing lead) and smoke from slow combustion heaters (Broken Hill City Council, 2016). Sources of dust and lead dust include vacant land, uncovered loads, mine leases (waste rock dumps, tailings dams, haul roads and mining activities), building demolition, land clearing, and commercial and industrial activities.

7.1.8.2 Issues for Consideration

Construction air quality impacts are primarily related to dust generation and combustion emissions from the use of machinery and equipment. The disturbance area for the Project would generally be limited to the Site and access trails. While construction includes foundation and structural construction, these areas would only be exposed for a short period with potential impacts related to dust generation expected to be minimal.

Operational air quality impacts are unlikely to occur.

7.1.8.3 Environmental Impact Assessment

The EIS would include a qualitative assessment of potential impacts related to construction primarily related to the control of dust. An operational air quality assessment is not required due to a lack of emissions.

7.1.9 Landscape and visual

7.1.9.1 Existing Environment

The Project is located within a relatively flat landscape, which is mostly dominated by open land and industrial and commercial operations. The nearest residential receivers are located approximately 1.7 km to the north-east of the Site. The BESS would be approximately 10 m in height and the associated transmission line towers would be around 30 m tall.

Existing roads surrounding the Project site, including Pinnacles Road and Pinnacles Place may provide road users passing views of the Project.

7.1.9.2 Issues for Consideration

The Project will include above ground infrastructure that may be visible from receptors immediately adjacent to the site. The potential visible infrastructure would include the battery array, transformers, transmission infrastructure as well as any other ancillary infrastructure as required.

7.1.9.3 Environmental Impact Assessment

Given the industrial nature of the area surrounding the Project and the distance to the nearest sensitive visual receivers, it is unlikely that the Project would result in adverse visual or landscape impacts. As such a landscape and visual impact assessment is not required.

7.1.10 Hazards and Risk

7.1.10.1 Existing Environment

The Site is located in a predominantly cleared area close to the Broken Hill substation. Other land use activities in the vicinity of the Site are mainly industrial in nature and include various civil, freight and storage facilities.

7.1.10.2 Issues for Consideration

Operation of the Project would potentially involve the storage and handling of dangerous goods. Dangerous goods or other hazardous materials associated with the Project may include:

- Sulphuric acid;
- Lead; and
- Lithium-Ion batteries (Class 9: miscellaneous dangerous substances and articles).

Concerns related to electric and magnetic fields (EMF) are unlikely to be an issue given that only a 22 kV transmission line connection to the substation is proposed.

7.1.10.3 Environmental Impact Assessment

SEPP 33 outlines the approach used in NSW for planning and assessing the risk and hazards associated with industrial development proposals. Through the policy, the permissibility of a development proposal is linked to its safety and pollution control performance. SEPP 33 applies to any proposals that fall under the Policy's definition of 'potentially hazardous' or 'potentially offensive industry'.

For development proposals classified as 'potentially hazardous industry' the Policy establishes a comprehensive test by way of a preliminary screening assessment and PHA to determine the risk to people, property and the environment.

A guideline prepared for SEPP 33 (*Applying SEPP 33 – Hazardous and Offensive Developments*), serves as a guide for the steps to be taken in determining whether a proposal is potentially hazardous or offensive. It provides a list of threshold levels for the storage and transport of dangerous goods. Where the amount of material to be stored or transported exceeds that threshold, SEPP 33 is considered to apply to the Proposal, potentially requiring a PHA.

Error! Reference source not found.7 presents the class of hazardous material under the *Australian Code for the Transport of Dangerous Goods by Road & Rail*, the amount of material to be stored and the SEPP 33 threshold for that material.

Table 7 Quantities of hazardous material to be stored and their SEPP 33 threshold level

Class	Material	SEPP 33 threshold (kg)	Does SEPP 33 apply?
9	Lithium ion batteries	N/A	No

* based on a density of 0.832 kg/L for diesel fuel

** PG = Packaged goods

Based on the above, the materials considered to be dangerous goods under the *Australian Code for the Transport of Dangerous Goods by Road & Rail* that would be stored at the Proposal Site do not exceed the SEPP 33 thresholds. Accordingly, SEPP 33 does not apply and a PHA is not required.

In any event, it is understood that DPIE has adopted the approach that BESS Projects are to be supported by a PHA, in line with to *Hazardous Industry Planning Advisory Paper No. 6 – Hazard Analysis* (DPIE 2011) and the *Multilevel Risk Assessment guideline* (DPIE, 2011). In light of this requirement, a PHA will be prepared to support the EIS. The PHA will qualitatively discuss the potential risk to people, the biophysical environment and to property from accidental releases of potentially hazardous material and energy. As noted, EMF is unlikely to be a concern given the low voltage of proposed transmission line and the lack of sensitive receivers.

7.1.11 Waste Management

7.1.11.1 Existing Environment

A waste depot operated by Broken Hill City Council is located approximately one km from the Site, about 300 m south of the Barrier Highway and 700 m north of the Adelaide-Broken Hill Railway. The depot provides for:

- Domestic waste disposal;
- Processing of green waste, compost and food waste;
- Construction waste disposal; and
- Waste oil storage.

The waste depot receives more than 10,000 tonnes of domestic waste, 6,000 tonnes of commercial waste, 10,000 tonnes of building/demolition waste, around 2,000 tonnes of industrial waste and 7,000 tonnes of green waste annually (BHCC, 2005).

7.1.11.2 Issues for Consideration

Construction of the Project has the potential to generate the following waste:

- Excess spoil;
- Vegetation from removal of shrubs and trees;
- Packaging materials associated with items delivered to site, such as pallets, crates, cartons, plastics and wrapping materials;
- Waste produced from clearing the Site and the maintenance of construction equipment and machinery, including liquid wastes from cleaning, repairing and maintenance;
- Sewage waste generated through the use of worker's facilities such as toilets. During construction, portable toilets would be used to provide onsite toilet facilities. These would be serviced weekly and waste would be disposed of offsite at a processing location; and
- General office and domestic waste, such as paper and food wastes.

The volumes of waste generated during construction are anticipated to be small and would not present waste management or disposal issues.

Small quantities of waste may be produced intermittently during operational maintenance activities; however, operation of the Project would have little or no impact on waste disposal resources in the region.

7.1.11.3 Environmental Impact Assessment

Assessment of the waste impacts of the Project would include the identification of expected waste streams that would result from both the construction and operational phases of the Project. Categories would be determined based on the NSW Waste Classification Guidelines (EPA, 2014). The waste hierarchy would also be applied to examine which wastes could be avoided, reduced, recycled or reused. Appropriate means of storage, handling and disposal would also be identified.

7.1.12 Social and Economic

7.1.12.1 Existing Environment

The Project is located in the Broken Hill LGA, which in the 2016 Australian Bureau of Statistics (ABS) Census had a population of 17,708; decreasing from 18,517 in 2011. The largest industry by employment category within Broken Hill is health care and social assistance with 1,409 FTE positions in 2018/19. The mining industry continues to provide the biggest economic contribution to the region, generating \$621 million in 2018/19 (idcommunity, 2020).

7.1.12.2 Issues for Consideration

The Project would provide the following direct and indirect social and economic benefits to the Broken Hill LGA:

- The creation of approximately one to three permanent FTE positions during the operation of the Project;
- The employment of a construction workforce during the construction of the Project; and
- Sourcing Project related inputs from Australian providers, including manufactured units from local original equipment suppliers, where viable.

7.1.12.3 Environmental Impact Assessment

The EIS will include a qualitative socio-economic assessment of the Project. It would identify potential social and economic impacts taking into consideration the potential impacts identified elsewhere in the EIS, the outcomes of the community consultation process and the wider economic benefits of the Project.

7.1.13 Cumulative Impacts

The potential for the Project to contribute to cumulative effects from other Projects would be assessed and documented within the EIS. The cumulative assessment would be dependent on the residual impacts from the assessments detailed above affecting the same receptor as the impacts from other Projects that are proposed or approved but not yet operational. Impacts from operational projects or activities would have been captured in the assessments detailed above. The cumulative assessments may be qualitative or quantitative depending on the environmental aspect being assessed and the likely magnitude of the cumulative effects.

7.2 Environmental Risk Screening Methodology

The environmental risk screening has been prepared in reference to:

- A review of the potential environmental constraints on and around the Site; and
- Key risks identified in a review of other similar Projects, including identifying areas of primary community interest.

The preliminary environmental risk screening for the Project has taken into consideration the likelihood of a potential environmental impact occurring and the consequence of that impact, should it not be mitigated. The likelihood and consequence of each impact have been combined through the risk screening matrix (**Table 8**) to establish the likely risk of the issue for the environmental assessment of the Project.

Table 8 Significance screening matrix

Likelihood of effect	Consequence of unmitigated effect		
	Minor	Moderate	Major
Unlikely	Very low	Low	Medium
Possible	Low	Medium	High
Likely	Medium	High	Very high

The allocation of risk is based upon the following considerations:

- Likelihood of effect:
 1. Unlikely – Unlikely to happen or occur.
 2. Possible – Could happen and has occurred elsewhere.
 3. Likely – Could easily happen and would probably occur.

- Consequences of unmitigated impact:
 1. Minor: minor adverse environmental change; small impact area; non-reportable incident.
 2. Moderate: moderate adverse environmental change; moderate impact area; reportable incident.
 3. Major: major adverse environmental change; large impact area; reportable incident to external agency; may result in fines.

The risk screening process aims to prioritise the issues for assessment and does not consider the application of mitigation measures to manage potential environmental effects. Appropriate mitigation measures would be used to minimise potential impacts and would be detailed in the EIS.

7.3 Review of Expected Stakeholder Interest

The expected level of stakeholder interest in each potential environmental issue identified has been considered based on known key issues raised in early consultation activities along with other major Projects in the area, including the Broken Hill Solar Farm Project.

Potential environmental impacts have been assigned an expected level of stakeholder interest based on the definitions presented in **Table 9**.

Table 9 Screening levels - Expected stakeholder interest

Level of interest	Definition
High level of interest	Identified potential environmental impact is likely to affect or garner interest from a large number of stakeholders.
Medium level of interest	Identified potential environmental impact is likely to affect or garner interest from some stakeholders.
Low level of interest	Identified potential environmental impact is unlikely to affect or garner interest from stakeholders.

7.4 Screening of Environmental Assessment Risk

The outcomes of the preliminary risk screening process are presented in **Table 10**. Mitigation measures would be developed during the assessment process and presented in detail in the EIS.

Table 10 Outcomes of screening of environmental assessment significance

Issue	Unmitigated environmental risk screening			Stakeholder level of interest	Environmental assessment risk
	Likelihood	Consequence	Risk		
Hazards and risk					
Storage of hazardous chemicals associated with batteries resulting in an incident	Unlikely	Moderate	Low	Moderate	Low
Soils, groundwater and contamination					
Interaction and mobilisation of contaminated soils	Unlikely	Moderate	Low	Low	Low
New contamination of soils and groundwater	Unlikely	Moderate	Low	Low	Low
Potential to encounter groundwater	Possible	Minor	Low	Low	Low
Surface water, flooding and water use					
Site flooding risk	Unlikely	Moderate	Low	Low	Low
Sedimentation of watercourse during construction due to erosion	Possible	Minor	Low	Low	Low
Biodiversity					
Impacts to biodiversity during construction including removal of protected flora or habitat of protected fauna	Possible	Moderate	Medium	Medium	Medium
Bushfire					
Damage to the facility due to bush fire	Unlikely	Moderate	Low	Low	Low
Bush fire ignition related to operation of the facility	Unlikely	Moderate	Low	Medium	Low
Aboriginal heritage					
Construction or operational impacts to Aboriginal heritage	Possible	Moderate	Medium	Medium	Medium
Non-Indigenous heritage					
Construction or operational impacts to non-Aboriginal heritage	Unlikely	Minor	Very low	Low	Low

Issue	Unmitigated environmental risk screening			Stakeholder level of interest	Environmental assessment risk
	Likelihood	Consequence	Risk		
Transport and access					
Significant construction traffic and transport impacts on surrounding road networks	Unlikely	Minor	Very low	Medium	Low
Significant operational traffic and transport impacts on surrounding road networks	Unlikely	Minor	Very low	Low	Low
Noise and vibration					
Significant construction and operational noise and vibration impacts on nearby sensitive receivers	Unlikely	Minor	Very low	Low	Low
Air quality					
Significant construction air quality impacts due to dust and emissions	Possible	Minor	Low	Medium	Low
Landscape and visual					
Visual impacts at nearby sensitive receivers	Unlikely	Minor	Very low	Low	Low
Waste management					
Construction and operational waste volumes placing strain on local waste management infrastructure	Unlikely	Minor	Very low	Low	Low
Social and economic					
Creation of local employment opportunities	Likely	Minor	Medium	Low	Low

7.5 Identification of Key Environmental Assessment Issues

Based on the risk screening presented in **Table 10**, key matters requiring assessment for this SSDA have been identified and are summarised in **Table 11**.

For each of the matters considered in **Table 11**, an assessment of risk was made based on the dominant ranking in **Table 10**. This risk screening assessment was based on the information currently available and the desktop investigations undertaken to date. These environmental assessment risk rankings would be reviewed and updated as more detailed environmental investigations are undertaken to inform the preparation of the EIS.

Table 11 Identification of key and other assessment issues

Environmental matter	Environmental assessment risk	Summary of key potential impacts and proposed assessment
Soils, groundwater and contamination	Low	Investigations will be completed to confirm the ground conditions at the Site and the presence and depth of groundwater. A qualitative assessment of potential soil, groundwater and contamination (if relevant) impacts will be completed.
Surface water, flooding and water use	Low	Water use is unlikely to be an issue. Surface water runoff would need to be managed during construction and operation of the Site. Potential impacts related to surface water management will be qualitatively assessed as part of the EIS. A qualitative assessment of potential flood risks will also be completed.
Biodiversity	Medium	The Site and transmission line corridor contain areas of PCT 155 in poor condition and land that could be utilised by certain threatened fauna. The transmission corridor also contains areas of PCT 155 in moderate condition. Potential impacts to biodiversity would be assessed in line with the BAM and a BDAR would be produced to support the EIS.
Bushfire	Medium	As the Project is located in an area of bushfire prone land, a Bushfire Impact Assessment will be prepared for the EIS in accordance with the requirements of <i>Planning for Bush Fire Protection 2019</i> and where necessary <i>Australian Standard 3959 – 2009 Construction of buildings in bushfire prone area</i> .
Aboriginal heritage	Medium	An Aboriginal heritage assessment would be included in the EIS and would be undertaken in accordance with the <i>Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales</i> and <i>Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW</i> . The assessment will be documented in an Aboriginal Cultural Heritage Assessment Report.
Non-Indigenous heritage	Low	The Project is not expected to impact non-indigenous heritage values. An unexpected finds procedure will be included as a mitigation measure in the EIS. No further assessment is required.

Environmental matter	Environmental assessment risk	Summary of key potential impacts and proposed assessment
Transport and access	Medium	Significant traffic impacts during construction of the Project are unlikely. As such a qualitative assessment of potential construction traffic impacts will be completed as part of the EIS. No significant operational traffic impacts are expected. Therefore, operational traffic impacts would not be assessed.
Noise and vibration	Low	<p>A number of industrial and commercial receivers are located close to the Site. As such a quantitative construction noise assessment, in line with the ICNG, will be provided as part of the EIS.</p> <p>The operation of the Project is expected to have minimal or negligible noise impacts given the nature of the Project and the surrounding industrial land uses. Operational noise impacts from the Project would be assessed in accordance with the Noise Policy for Industry (EPA, 2017). The operational noise associated with the Project is anticipated to be minor.</p>
Air quality	Medium	The EIS will include a qualitative assessment of potential impacts related to construction primarily related to the control of dust. An operational air quality assessment is not required due to a lack of emissions.
Landscape and visual	Low	Given the industrial nature of the area surrounding the Project and the distance to the nearest sensitive visual receivers, it is unlikely that the Project would result in adverse visual or landscape impacts. As such a landscape and visual impact assessment is not required.
Hazard and risk	Low	The use and storage of dangerous goods will be discussed within the EIS and relevant transport and design controls (for the transport and use of Lithium-Ion batteries) or other mitigation measures (for the storage or use of other dangerous goods) will be presented as part of a qualitative discussion regarding the mitigation of potential operational risks. As noted, EMF is unlikely to be a concern given the low voltage of proposed transmission line and the lack of sensitive receivers.
Waste management	Low	Waste would be produced during construction of the Project and to a lesser extent during operation. A high-level waste management assessment focusing on likely waste types and management options would be provided as part of the EIS.
Social and economic	Low	The EIS will include a qualitative socio-economic assessment of the Project. It would identify potential social and economic impacts taking into consideration the potential impacts identified elsewhere in the EIS, the outcomes of the community consultation process and the wider economic benefits of the Project.

8.0 Conclusion

AGL is seeking development consent for State Significant Development (SSD) under Division 4.7 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to construct and operate a battery storage facility with a capacity of approximately 50 MW and up to 100 MWh at a Site close to the Broken Hill substation approximately two km south west of the nearest residential areas of Broken Hill. This Scoping Report provides a preliminary assessment of the environmental and planning considerations to guide the preparation of Secretary's Environmental Assessment Requirements (SEARs) for the SSD application.

The matters that have been identified for further detailed assessment during the preparation of the EIS are:

- Aboriginal heritage impacts given the presence of identified Aboriginal heritage values in proximity to the Project and the undeveloped nature of the Site;
- Biodiversity, including potential impacts to threatened communities and threatened fauna;
- Surface water impacts and flood risks resulting from surface water quality impacts and the potential for flooding to impact the Project;
- Bushfire risk on assets due to surrounding bushfire prone land; and
- Noise and vibration from construction activities and potential impacts to sensitive receivers.

Other matters that will be considered in the EIS are:

- Air quality impacts in relation to dust created during construction;
- Noise from operational activities;
- Transport and access in relation to potential minor impacts to the road network from construction and operational traffic;
- Soils, groundwater and contamination impacts related to erosion and sediment control during construction, intercepting groundwater and the exposure of potential contamination;
- Hazards and risk associated with the operation of batteries and associated dangerous goods;
- Waste generation in relation to the types of waste generated during the construction and operation of the Project; and
- Socio and economic impacts including the potential benefits relating to increased employment opportunities.

In assessing the Project, the key focus would be avoidance and minimisation of impacts on the environment and local communities, where practical and feasible, when taking into consideration engineering constraints and cost implications. The assessment would also identify mitigation and management measures to minimise impacts on the environment during construction and operation of the Project. Consultation with stakeholders and the local community will continue throughout the Project assessment, design and construction phases.

It is requested that DPIE confirm the Project as SSD and issue SEARs to enable an EIS to be prepared.

9.0 References

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- DPIE 2019b, *State Vegetation Type Map: Western Region v1.0. VIS_ID 4492*
- DPI 2011, *Murray Darling Basin Fractured Rock Groundwater Sources Water Sharing Plan – Background document*, January 2012
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Appendix A

The Protected Matters Search

Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	1
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	10
Listed Migratory Species:	8

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	13
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	19
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

National Heritage Properties		[Resource Information]
Name	State	Status
Historic		
City of Broken Hill	NSW	Listed place

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Amytornis modestus Thick-billed Grasswren [84121]	Vulnerable	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Pedionomus torquatus Plains-wanderer [906]	Critically Endangered	Species or species habitat may occur within area
Pezoporus occidentalis Night Parrot [59350]	Endangered	Extinct within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area

Mammals		
Notomys fuscus Dusky Hopping-mouse, Wilkiniti [125]	Vulnerable	Species or species habitat may occur within area
Nyctophilus corbeni Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat may occur within area

Plants		
Acacia carneorum Needle Wattle, Dead Finish, Purple-wood Wattle [66685]	Vulnerable	Species or species habitat likely to occur within area
Solanum karsense Menindee Nightshade [7776]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		

Name	Threatened	Type of Presence
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land	[Resource Information]
The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.	

Name
Commonwealth Land -

Listed Marine Species	[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.	
Name	Threatened
Birds	Type of Presence
Actitis hypoleucos Common Sandpiper [59309]	Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]	Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]	Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]	Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Species or species habitat may occur within area

Name	Threatened	Type of Presence
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Chrysococcyx osculans Black-eared Cuckoo [705]		Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area

Extra Information

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
Birds		
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Capra hircus Goat [2]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Carrichtera annua Ward's Weed [9511]		Species or species habitat may occur within area
Chrysanthemoides monilifera subsp. monilifera Boneseed [16905]		Species or species habitat likely to occur within area
Cylindropuntia spp. Prickly Pears [85131]		Species or species habitat likely to occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Parkinsonia aculeata Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-31.9864 141.42333

Acknowledgements

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- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
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- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
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- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

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