



Culcairn to Wagga Wagga Gas Pipeline

Modification 1 – Uranquinty Compressor Station

APA Group

25 August 2025

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Executive Summary

Background

East Australian Pipeline Pty Ltd, part of APA Group (APA), own and operate the Culcairn to Wagga Wagga Pipeline, an 88 km natural gas pipeline extending from Wagga Wagga to Culcairn in NSW. The pipeline is authorised by Pipeline Licence No. 23 (PL23) issued under the *Pipelines Act 1967* on 1 October 1997.

The project was transitioned to State significant infrastructure and operates under the SSI-65512969 approval in addition to PL23.

APA is proposing to modify the SSI-65512969 approval under section 5.25 of the *Environmental Planning and Assessment Act 1979* to construct and operate a compressor station, namely the Uranquinty Compressor Station (UCS) at Uranquinty, NSW. The compressor station will form part of the larger East Coast Grid Expansion project currently being undertaken by APA, which is an important strategic infrastructure project to enhance the capacity and reliability of Australia's east coast gas transmission network.

GHD Pty Ltd (GHD) has been engaged to prepare this Modification Report to support the proposed modification (Modification 1) to the SSI-65512969 approval.

Proposed modification

The Culcairn to Wagga Wagga Pipeline is located along the western boundary of the Origin Energy owned Uranquinty Power Station located on Uranquinty Cross Road. It is proposed to construct and operate a compressor station on APA land (Lot 781 DP 878179) adjacent to the Uranquinty Power Station. The proposed modification includes:

- An electric driven compressor unit
- Lubricating oil system (inclusive of lube oil cooler)
- Compressor inlet / scrubber
- Air cooled heat exchangers
- Electrical house for high voltage switchgear
- Variable Frequency Drive
- Variable Frequency Drive cooler
- Isolation transformer
- Air compressors and receivers
- Associated piping, electrical equipment, instrumentation and controls
- Station attenuated vent
- Control building housing the automated control systems and communications
- Back up diesel generator
- Septic tank system
- Security fences
- Access and support facilities.

Need for the proposed modification

The Australian Energy Market Operator (AEMO) predicted a gas shortfall on Australia's east coast to occur from 2028, with a supply gap anticipated to occur annually (AEMO, 2025). APA is seeking expansion of the East Coast Gas Grid, part of which involves the construction of a new compressor station. This expansion, known as Stage 3, will see progressive increases within the Moomba to Sydney Pipeline capacity from 590 TJ/day to 700 TJ/day. The Southwest Queensland Pipeline capacity would increase from 512 TJ/day to 605 TJ/day and capacity between

Young and Melbourne would increase from 190 TJ/day to 229 TJ/day. The new UCS would support in increasing the capacity of the Culcairn to Wagga Wagga Pipeline, enabling increased gas supply to users of the pipeline.

Additionally, the Australian Government's Future Gas Strategy (Department of Industry, Science and Resources, 2024) underlines a coordinated, nation-wide approach to mitigate supply challenges by expanding gas infrastructures and moving gas across significant distances, using pipelines, and the management of storage. The proposed modification would meet the objectives of the Australian Government's Future Gas Strategy (Department of Industry, Science and Resources, 2024) which maps the Australian Government's plan for how gas will support our economy's transition to net zero in partnership with the world.

Stakeholder engagement

Consultation with key stakeholders including government agencies, network operators, the local community and Aboriginal community members has been undertaken during the development of the proposed modification. Consultation is continuing for Registered Aboriginal Parties (RAPs) and network operators Essential Energy and Origin Energy. Consultation will continue for the proposed modification during construction and operation phases.

Assessment findings

Assessments of potential impacts for the construction and operational stages of the proposed modification have been undertaken, including the preparation of technical studies by specialists. The key outcomes of technical studies prepared to assess the potential impacts of the proposed modification on the environment include:

- **Noise and vibration:** the proposed modification is expected to have manageable exceedances of the noise management levels during construction. Several receivers are anticipated to experience exceedances during construction activities, particularly when construction activities are undertaken outside of the standard construction hours. However, these would be temporary and short term with mitigation measures to minimise noise impacts as far as practicable. Operation of the proposed modification is predicted to achieve compliance with the Project Noise Trigger Level (PNTL) at all sensitive receivers. In addition, within 12 months of commissioning the UCS a noise validation assessment would be undertaken to confirm the operational noise output. Should this assessment find that the UCS does not comply with PNTLs, additional mitigation measures will be identified and implemented to reduce operational noise levels.
- **Biodiversity:** There is no native vegetation in the proposed site. The proposed site is located on a predominately cleared lot in an agricultural area surrounded by residential dwellings and agricultural infrastructure. The proposed site does not contain any known or potential nest or roost sites, or any other habitat resources that would be important to the ecology of any threatened species. The proposed site does not function as a connecting link between any areas of habitat. The proposed modification does not include the erection of any structures that would increase the risk or energy cost of movement of any threatened or migratory fauna. There is no suitable habitat within the proposed site for any threatened flora species, and the non-native vegetation present is not commensurate with any threatened ecological communities.
- **Bushfire:** the proposed modification was assessed in accordance with the NSW Rural Fire Service Planning for Bushfire Protection (NSW RFS, 2019) in relation to asset protection zones, public roads and accessibility and provision of services. With the implementation of bushfire protection measures the proposed modification complies with Planning for Bushfire Protection (NSW RFS, 2019).
- **Air quality:** the assessment concluded that the construction stage poses a medium risk of dust soiling at the neighbouring Uranquinty Power Station site office across all construction phases, and a low risk for human health and ecological impacts. With the implementation of recommended mitigation measures to manage potential construction dust emissions, the impacts are anticipated to be low risk on nearby receivers.
- **Traffic and transport:** Olympic Highway and Uranquinty Cross Road are currently operating below capacity with volume to capacity ratio approximately at 0.55 and 0.07, respectively. This is well under the target maximum acceptable volume to capacity ratio of 0.85, which means that the road has significant capacity to accommodate additional traffic volumes. Construction is expected to require a daily total of 32 heavy vehicle movements and 66 light vehicle movements. Peak hour vehicle movements are expected to be 23 light vehicles and eight heavy vehicles. Construction and personal vehicles would be parked at the appropriate designated area within the proposed site. The construction and operation of the modification would not have a significant impact on road network operations.

- **Social and economic impacts:** There is potential for the non-residential workforce to contribute to existing short and long-term accommodation challenges. However, these impacts can be effectively managed through the development of a workforce accommodation strategy, which considers existing capacity, maximising local employment, and other regional construction projects and adopting effective monitoring measures. The increase in demand on social infrastructure services and facilities, such as health and emergency services, is expected to generate minor impacts. These impacts can be managed through the implementation of workplace health and safety requirements.
- **Soils and water:** the proposed modification impacts are expected to be limited and may be suitably mitigated through standard erosion and sediment controls. During construction, the estimated soil erosion loss is expected to be minimal and can be sufficiently mitigated with typical erosion and sediment controls. As a result of the minimal predicted soil erosion loss, impacts to downstream water quality are not expected. There is limited potential for groundwater interception during construction activities due to the shallow depth of excavation proposed, and the likely depth of groundwater below the proposed site. As a result, assessed impacts to nearby groundwater dependent ecosystems or groundwater users are negligible.
- **Hazards and risks:** Hazard Identification was undertaken which involves documenting possible events that could lead to a possible off-site incident. A preliminary hazard analysis was developed in accordance with *Hazardous Industry Planning Advisory Paper No 6 – Guidelines for Hazard Analysis* (DoP, 2011a), and *Hazardous Industry Planning Advisory Paper No 4 – Risk Criteria for Land Use Safety Planning* (DoP, 2011b). The HAZID process identified five scenarios that may involve the loss of containment of natural gas at the proposed site. Although there is a potential for offsite fatality from multiple sources, the risk from the proposed modification is below the *Hazardous Industry Planning Advisory Paper No 4 – Risk Criteria for Land Use Safety Planning* (DoP, 2011b) risk criteria for offsite personnel.
- **Aboriginal heritage:** A field survey of the proposed site was undertaken with a representative of the Wagga Wagga Local Aboriginal Land Council (LALC) in order to identify any Aboriginal objects present at the proposed site. The field survey found no Aboriginal cultural heritage sites or areas of archaeological sensitivity. The site has high levels of disturbance, which potentially contributes to the low archaeological potential and LALC representatives did not identify any intangible cultural values during the survey. Additional consultation with RAPs is currently underway and outcomes will be provided in an updated ACHAR during the Response to Submissions phase for the proposed modification.

Justification and conclusion

APA's East Coast Gas Grid Expansion will help avert forecast gas shortfalls, with additional infrastructure ensuring lower-cost, lower-emissions gas meets growing east coast demand. As part of stage 3 of the East Coast Gas Grid Expansion Plan, the UCS will add material further north-to-south gas transport capacity and provide greater connectivity of gas supply between Queensland, NSW and Victoria.

APA's East Coast Gas Grid Expansion Plan delivers cost effective, safe and reliable transportation of Australian domestic gas from northern gas producers to southern markets. APA has recently announced a five-year East Coast Gas Grid Expansion Plan to deliver approximately 24 percent increase in north-to-south gas transport capacity and new southern markets storage to help ensure lower cost and lower emissions domestic gas is available to meet East Coast gas demand over the next decade and to support the delivery of new gas-powered generation. The UCS is a key component of Stage 3 which is designed to ensure there is sufficient capacity for domestic gas to supply southern market demand and to avoid the market shortfalls otherwise forecast by the AEMO Gas Statement of Opportunities 2025 (AEMO, 2025) and the ACCC Gas Inquiry 2017-2030 (ACCC, 2024).

The selected location of the proposed modification site and the design of the UCS means that the proposed modification can be undertaken without significant adverse environmental and social impacts to the community. APA's intention is to utilise local and regional suppliers and businesses for both the construction and operational phases where practical, which will contribute to the proposed modification resulting in positive economic benefits to the Riverina region and to NSW.

The proposed modification has strong economic justifications due to the strategic importance of gas and the economic stimulus it will provide locally, regionally and to NSW and Australia as a whole.

Glossary and abbreviations

Term	Definition
ACHAR	Aboriginal Cultural Heritage Assessment Report
AEMO	Australian Energy Market Operator
APA	APA Group
APZ	Asset Protection Zone
ASD	Approach Sight Distance
BAL	Bushfire Attack Level
BAM	Biodiversity Assessment Method
BC Act	<i>Biodiversity Conservation Act 2016</i>
BDAR	Biodiversity development assessment report
CEMP	Construction Environmental Management Plan
Cth DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
DPHI	Department of Planning, Housing and Infrastructure
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>
GDE	Groundwater Dependent Ecosystems
HAZID	Hazard Identification
HEVAE	High Ecological Values Aquatic Ecosystems
HIPAP	Hazardous Industry Planning Advisory Paper
LGA	Local Government Area
ML	Monitoring location
NSW DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water
Pipelines Act	<i>Pipelines Act 1967</i>
PL23	Pipeline Licence No 23
PNTL	Project-specific noise trigger levels
RAPs	Registered Aboriginal Parties
SEIA	Social and economic impact assessment
UCS	Uranquinty Compressor Station

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Appendix J	Groundwater, Surface Water and Soil Assessment
Appendix K	Preliminary Hazard Analysis
Appendix L	Aboriginal Cultural Heritage Assessment Report

1. Introduction

1.1 Background

East Australian Pipeline Pty Ltd, part of APA Group (APA), own and operate the Culcairn to Wagga Wagga Pipeline, an 88 km natural gas pipeline extending from Wagga Wagga in the Wagga Wagga local government area (LGA) to Culcairn in the Greater Hume Shire LGA in NSW. The Culcairn to Wagga Wagga pipeline interconnects with the Moomba to Wilton Pipeline which extends approximately 1,300 km between Moomba in South Australia to Wilton in NSW (refer to Figure 1.1).

The Culcairn to Wagga Wagga Pipeline is authorised by Pipeline Licence No. 23 (PL23) and SSI-65512969. The pipeline forms part of APA's East Coast Grid of gas transmission pipelines.

APA is proposing an expansion of gas transportation capacity within its East Coast Grid linking Queensland to southern states of Australia. This is in response to forecasted potential supply issues during the winter months (AEMO, 2025). To achieve expansion of the East Coast Grid and build capacity to move more gas to address shortfalls, the construction of a compressor station on the Culcairn to Wagga Wagga Pipeline is proposed.

APA seeks to construct the Uranquinty Compressor Station (UCS) as part of Stage 3 of APA's East Coast Grid Expansion Plan (the proposed modification). The UCS would be located in Uranquinty, NSW along Uranquinty Cross Road within the Wagga Wagga LGA on land owned by APA (Lot 781 DP 878179) (refer to Figure 1.2).

The construction and operation of the UCS, the decommissioning of infrastructure and rehabilitation of land is being sought through a modification (Modification 1) to the SSI-65512969 approval under section 5.25 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), referred to as 'the proposed modification' in this Modification Report.

GHD Pty Ltd (GHD) has been engaged by APA to prepare this Modification Report for the proposed modification.

1.2 The proponent

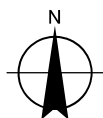
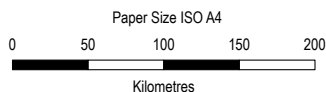
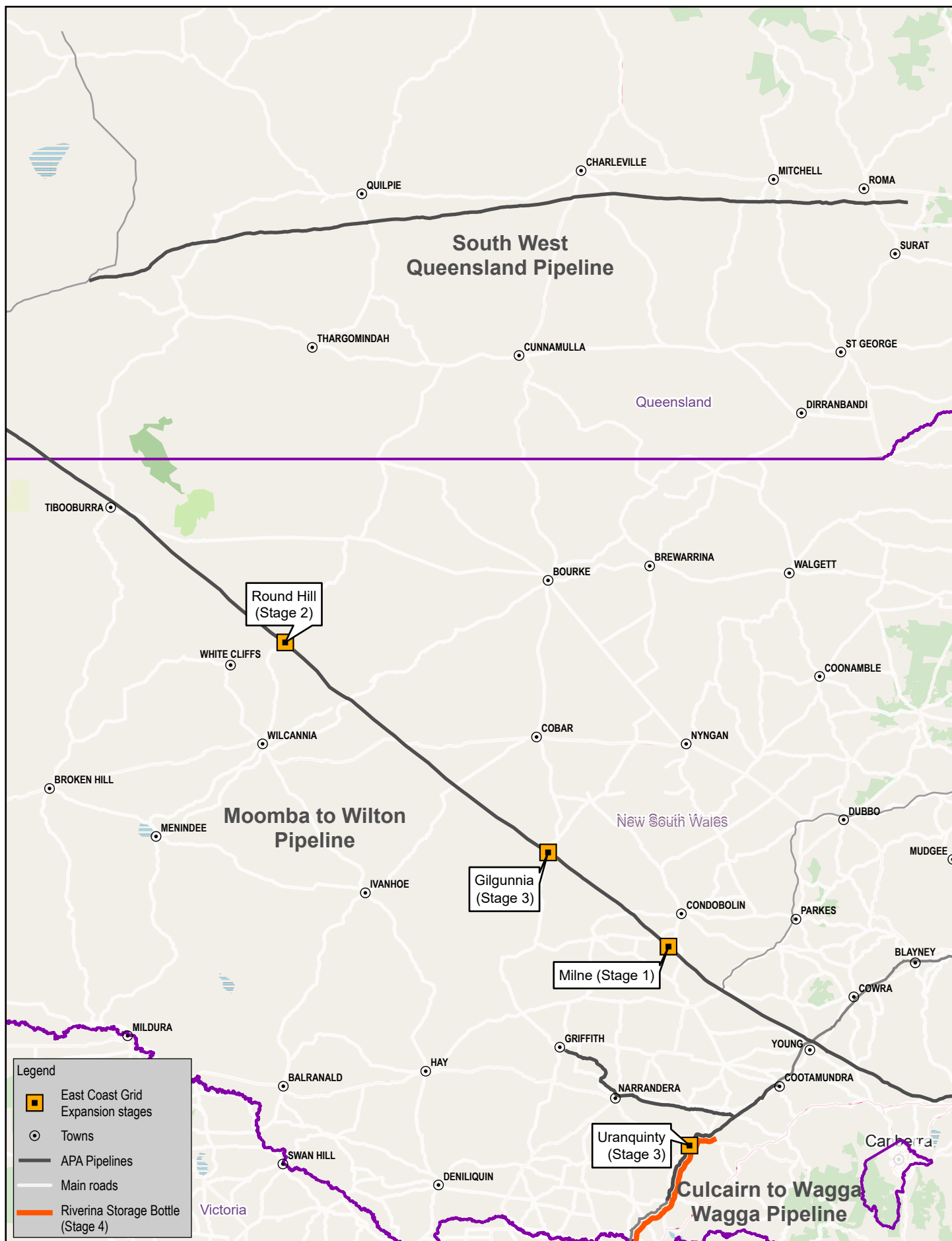
The proponent is APA, which owns and/or operates more than 15,000 km of pipeline infrastructure, of which about 7,500 km makes up the East Coast Gas Grid. APA owns and/or operates around \$27 billion of energy assets in total.

APA also has ownership interests in, and operates, the Allgas gas distribution network as well as operating the Australian Gas Networks (formerly Envestra Limited) assets, which together comprise approximately 27,000 km of gas mains and approximately 1.4 million gas consumer connections. APA also owns other energy infrastructure assets such as gas storage facilities, gas-fired power stations, and solar and wind farms.

The proponents' details are outlined in Table 1.1 below.

Table 1.1 Proponent details

Detail	Description
Company	APA Group
Address	Level 12 & 13/80 Ann St, Brisbane, QLD 4000
ABN	913 447 04



Horizontal Datum: GDA 1994
Grid: GCS GDA 1994



East Australian Pipeline Pty Ltd
Culcairn to Wagga Wagga Gas Pipeline –
MOD 1 Uranquinty Compressor Station
Modification Report

Project No. 12614690
Revision No. 0
Date 25/07/2025

East Coast Grid Expansion Project

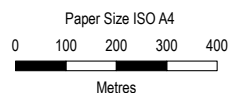
FIGURE 1.1



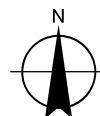
LEGEND

- Proposed site
- Easement
- Lot
- Culcairn to Wagga Wagga pipeline

- Railway
- Waterway
- Residential receiver



Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55



East Australian Pipeline Pty Ltd
Culcairn to Wagga Wagga Gas Pipeline –
MOD 1 Uranquinty Compressor Station
Modification Report

Location of proposed modification

Project No. 12614690
Revision No. 0
Date 25/07/2025

FIGURE 1.2

1.3 The proposed modification

1.3.1 Overview

The proposed modification involves the construction, operation, decommissioning and rehabilitation of the UCS. Key elements of the proposed modification include:

- Construction and operation of an electric driven compressor unit on Lot 781 DP 878179 in Uranquinty, NSW (the proposed site).
- Following completion of the UCS construction, the laydown area and other cleared areas no longer required for operations will be progressively rehabilitated to minimise dust generation, soil erosion and weed incursion.
- The UCS would operate intermittently throughout the year, responding to peak gas demand.
- Construction workforce with an average of 40 personnel, with a peak of 65 personnel over the approximate 12-month construction period, with a 3-month commissioning period occurring thereafter.
- The UCS would operate for approximately 25 years. The UCS is designed to be operated remotely up to 24 hours a day without onsite staff for most of its working life.

The capital investment value for the proposed modification is approximately \$80 – 85 million.

Construction of the UCS is anticipated to commence in the second half of 2026, subject to relevant approvals being obtained.

Additional details of the proposed modification are provided in Section 3.

Electricity connection

The UCS would require an electricity network connection. APA is currently engaging with Essential Energy, the electricity distribution operator for the regional area, to establish a network connection for the UCS. APA is working with Essential Energy on network studies to confirm the required capacity requirements and exploring two potential network options:

1. A new 22 kV feeder from the Uranquinty Zone Substation of about 3.7 km.
2. Utilising the existing 22 kV line from the Uranquinty Zone Substation and extending the line around 250 m across the Uranquinty Power Station. Utilising the existing line would require conductor upgrades of the existing line.

Following finalisation of the network options, the above works (presented on Figure 1.3) would be assessed separately under Division 5.1 of the EP&A Act by Essential Energy and are therefore not assessed in this Modification Report. Additionally, APA is currently engaging with Origin Energy regarding an easement agreement to enable the network connection. Consultation information is provided in Section 5.



LEGEND

- Proposed site
- Culcairn to Wagga Wagga pipeline
- New 22kV line
- Existing network upgrade

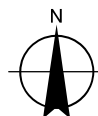
—+— Railway

~~~~~ Waterway

Uranquinty Zone Substation

Paper Size ISO A4  
0 100 200 300 400  
Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



East Australian Pipeline Pty Ltd  
Culcairn to Wagga Wagga Gas Pipeline –  
MOD 1 Uranquinty Compressor Station  
Modification Report

Indicative electricity connection works  
under separate Part 5 REF

Project No. 12614690  
Revision No. 0  
Date 25/07/2025

**FIGURE 1.3**



## 1.4 Approvals

### 1.4.1 The approved project

The Culcairn to Wagga Wagga Pipeline operation is authorised by PL23 issued under the *Pipelines Act 1967* (Pipelines Act). An Environmental Impact Statement (SKM, 1996) supported the application for PL23 when Part 4 of the EP&A Act provisions did not apply to the construction of pipelines under the Pipelines Act.

These provisions were repealed in September 2006 by the *Pipelines Amendments Act 2006* which included transitional provisions for existing pipelines, under which PL23 was deemed to be a planning approval granted under Part 3A of the EP&A Act.

Part 3A of the EP&A Act was also repealed in October 2011. Under the provisions of the Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017, the Culcairn to Wagga Wagga Pipeline was transitioned to State Significant Infrastructure (SSI) as SSI-65512969 by a Ministerial Order. The Order took effect upon publication in the NSW Government Gazette on 28 July 2023 (#334). As such the Culcairn to Wagga Wagga Pipeline operates under PL23 and SSI-65512969 approval.

### 1.4.2 Modification approval pathway

APA is seeking to modify SSI-65512969 under the provisions of section 5.25 of the EP&A Act which provides for the modification of an SSI approval. The proposed modification will be Modification 1 to the SSI-65512969 approval.

Modification 1 (this proposed modification) was initiated through a Scoping Report to the then Department of Planning and Environment, now Department of Planning, Housing and Infrastructure (DPHI) on 27 November 2023. DPHI confirmed via letter on 18 January 2024 that the proposed modification could be assessed under section 5.25 of the EP&A Act with supporting technical assessments outlined in the Scoping Report. DPHI requested additional assessment be undertaken on social and economic impacts for workforce accommodation and any proposed out of hours works which has been completed for this report.

## 1.5 Purpose and structure of this report

This Modification Report has been prepared by GHD on behalf of APA to support the application to modify development consent SSI- 65512969 pursuant to section 5.25(2) of the EP&A Act. The Modification Report assesses the potential environmental impacts arising from the proposed modifications and includes mitigation measures to minimise environmental impacts.

This report has been prepared in accordance with the State significant infrastructure guidelines – preparing a Modification Report (DPE 2022a).

The structure and context of this report is as follows:

- **Section 1** - introduces the approved project and the proposed modification
- **Section 2** - describes the strategic context of the modification
- **Section 3** - describes the proposed modification
- **Section 4** – summarises the statutory context of the modification
- **Section 5** – outlines community and stakeholder engagement activities
- **Section 6** – summarises the assessment of environmental impacts
- **Section 7** – provides a justification of the proposed modification and conclusion.

The **Appendices** include supporting technical reports for the identified key environmental issues and a summary of the mitigation measures proposed for the modification.

## **2. Strategic context**

### **2.1 Site description**

#### **2.1.1 The proposed site**

The proposed modification would be located on Lot 781 DP 878179 at the address 302 Uranquinty Cross Road, Uranquinty. The proposed site is land owned by APA and located in the Wagga Wagga LGA. The proposed site is about 4.6 ha in size and located approximately 3.2 km north-west of the town of Uranquinty, NSW. The site has an easement for the Culcairn to Wagga Wagga Pipeline running along the eastern side and southern boundary, with a metering station currently located and associated with the existing gas transmission pipeline. Main vehicle access to the proposed site is via Uranquinty Cross Road. An existing access road is present within the proposed site, which also provides access to the pipeline metering station.

The proposed site is zoned SP2 Electricity Generating Works under the Wagga Wagga Local Environmental Plan 2010. Land surrounding the proposed site is zoned RU1 Primary Production under the Wagga Wagga Local Environmental Plan 2010.

The proposed site is adjacent to the Origin Energy owned and operated Uranquinty Power Station which was constructed in 2008 and commissioned in 2009. The Uranquinty Power Station is located adjacent to the northern and eastern boundaries of the proposed site.

The proposed site location is presented on Figure 1.2.

#### **2.1.2 Surrounding area and sensitive receivers**

The closest residential dwellings are located about 880 m and 1.1 km south-east of the proposed site. There is also one residential dwelling located about 1.2 km north-west of the proposed site. The town of Uranquinty is located about 3.2 km south-east of the proposed site. There are no commercial or recreational businesses, schools, conservation areas or places of worship within 2 km of the proposed site (refer to Figure 1.2).

The surrounding land comprises primarily of cropped rural land which has been predominantly cleared of vegetation. Small patches of remnant vegetation are scattered throughout the wider landscape, with a stand of trees adjacent to the northern boundary of the proposed site. Overall, the proposed site has been predominantly cleared of vegetation.

The nearest watercourse is Sandy Creek, located approximately 1.9 km to the north-east (refer to Figure 1.2).

## **2.2 East Australian gas market**

Gas supply shortfalls are predicted to occur from as early as 2029 if no sufficient alternatives are introduced. The supply and demand of natural gas depends on factors such as weather, electricity market conditions, infrastructure maintenance, and any relevant policy changes (ACCC, 2024).

The 2025 Gas Statement of Opportunities (AEMO, 2025) projects potential gas supply shortfalls during peak demand periods in Australia as early as 2028, with a more pronounced seasonal gap by 2029. Without further gas projects, and enabling infrastructure, an annual gas supply gap is forecast to emerge by 2028 on Australia's east coast. Australian Energy Market Operator (AEMO) emphasises the importance of progressing key infrastructure projects to minimise shortfall risks, including APA's East Coast Grid Expansion plans to transport gas to southern demand centres.

Additionally, the Australian Government's Future Gas Strategy (Department of Industry, Science and Resources, 2024) underlines a coordinated, nation-wide approach to mitigate supply challenges by expanding gas infrastructures and moving gas across significant distances, using pipelines, and the management of storage.

The proposed modification would meet the objectives of the Australian Government's Future Gas Strategy (Department of Industry, Science and Resources, 2024) which maps the Australian Government's plan for how gas will support our economy's transition to net zero in partnership with the world.



## 2.3 Modification context

The construction and operation of UCS would help support Stage 3 of the larger five-year East Coast Gas Grid Expansion Plan to deliver an approximate 24 percent increase in north-to-south gas transport capacity and new southern markets storage to help lower cost and lower emissions domestic gas is available to meet East Coast gas demand and to support the delivery of new gas-powered generation.

Stage 3 of the East Coast Gas Grid Expansion Plan will increase the winter peak capacity of natural gas through progressive increases of gas storage and transport capacity. The Plan will build on APA's approximate \$700 million investment over the last four years in Stages 1 and 2 which has already added approximately 25 percent capacity to the grid.

APA's current 7,500 km East Coast Gas Grid of interconnected gas transmission pipelines provide the flexibility to move gas around eastern Australia, from Otway and Longford in Victoria to Moomba in South Australia and Mount Isa and Gladstone in Queensland.

The proposed modification would support the East Coast Gas Grid Expansion Plan, and its approval is important for delivering additional energy security to NSW and the east coast of Australia.

### 2.3.1 Modification need

AEMO predicted a gas shortfall on Australia's east coast to occur from 2028, with a supply gap anticipated to occur annually (AEMO, 2025). APA is seeking expansion of the East Coast Gas Grid, part of which involves the construction of a new compressor station. This expansion, known as Stage 3, will see progressive increases within the Moomba to Sydney Pipeline capacity from 590 TJ/day to 700 TJ/day. The Southwest Queensland Pipeline capacity would increase from 512 TJ/day to 605 TJ/day and capacity between Young and Melbourne would increase from 190 TJ/day to 229 TJ/day.

The new UCS would support in increasing the capacity of the Culcairn to Wagga Wagga Pipeline, enabling increased gas supply to users of the pipeline.

### 2.3.2 Options considered

#### **Do nothing**

The first option considered was the 'do nothing' option, which would involve not constructing and operating the UCS. This option means UCS would not be constructed or operated. The option was not considered viable as:

- The larger East Coast Gas Grid Expansion Plan (Section 2.3) will not be supported, despite this project being designed to resolve the increasing natural gas demand issues in NSW and Victoria.
- The much-needed transportation of gas to southern demand centres and addressing the supply gap forecasted to occur by 2028 may not be realised.

#### **Construct and operate UCS**

The second option considered was to construct and operate UCS and progress the SSI modification. Option 2 is the preferred and selected option as the construction and operation of UCS aligns with the broader East Coast Gas Grid Expansion Plan objectives to increase the accessibility and transport of gas across Eastern Australia. Option 2 would also contribute to the growth of the East Australian Gas Market and proceed with East Coast Gas Grid Expansion Stage 3.

## 3. Description of the modification

### 3.1 Proposed modification

The proposed modification involves the construction and operation of a new compressor station, the UCS, in Uranquinty, NSW.

The UCS will be developed along the Culcairn to Wagga Wagga Pipeline and would be operational for 25 years.

The proposed modification would include the following elements:

- An electric driven compressor unit
- Lubricating oil system (inclusive of lube oil cooler)
- Compressor inlet / scrubber
- Air cooled heat exchangers
- Electrical house for high voltage switchgear
- Variable Frequency Drive
- Variable Frequency Drive cooler
- Isolation transformer
- Air compressors and receivers
- Associated piping, electrical equipment, instrumentation and controls
- Station attenuated vent
- Control building housing the automated control systems and communications
- Back up diesel generator
- Septic tank system
- Security fences
- Access and support facilities.

The compressor station would be installed on driven piles or supported on structural steel skids over gravel sheeting and the transformers would be installed on a concrete slab.

Once constructed, the UCS would have an average design life of approximately 25 years. APA will continue to monitor the condition of equipment up to, and beyond, the end of life to assess equipment is sound and fit for further service. Ongoing maintenance of plant and equipment would be undertaken as part of the operations.

Continued operation beyond the compressor station nominal design life would be subject to specific equipment condition and plant fitness assessments. The compressor station would be decommissioned when there is no further economic potential to continued use.

### 3.2 Construction

#### 3.2.1 Timing and methodology

Construction of UCS is scheduled to begin in the second half of 2026, subject to approval of the proposed modification. The construction of UCS would take approximately twelve months, followed by three months of commissioning.

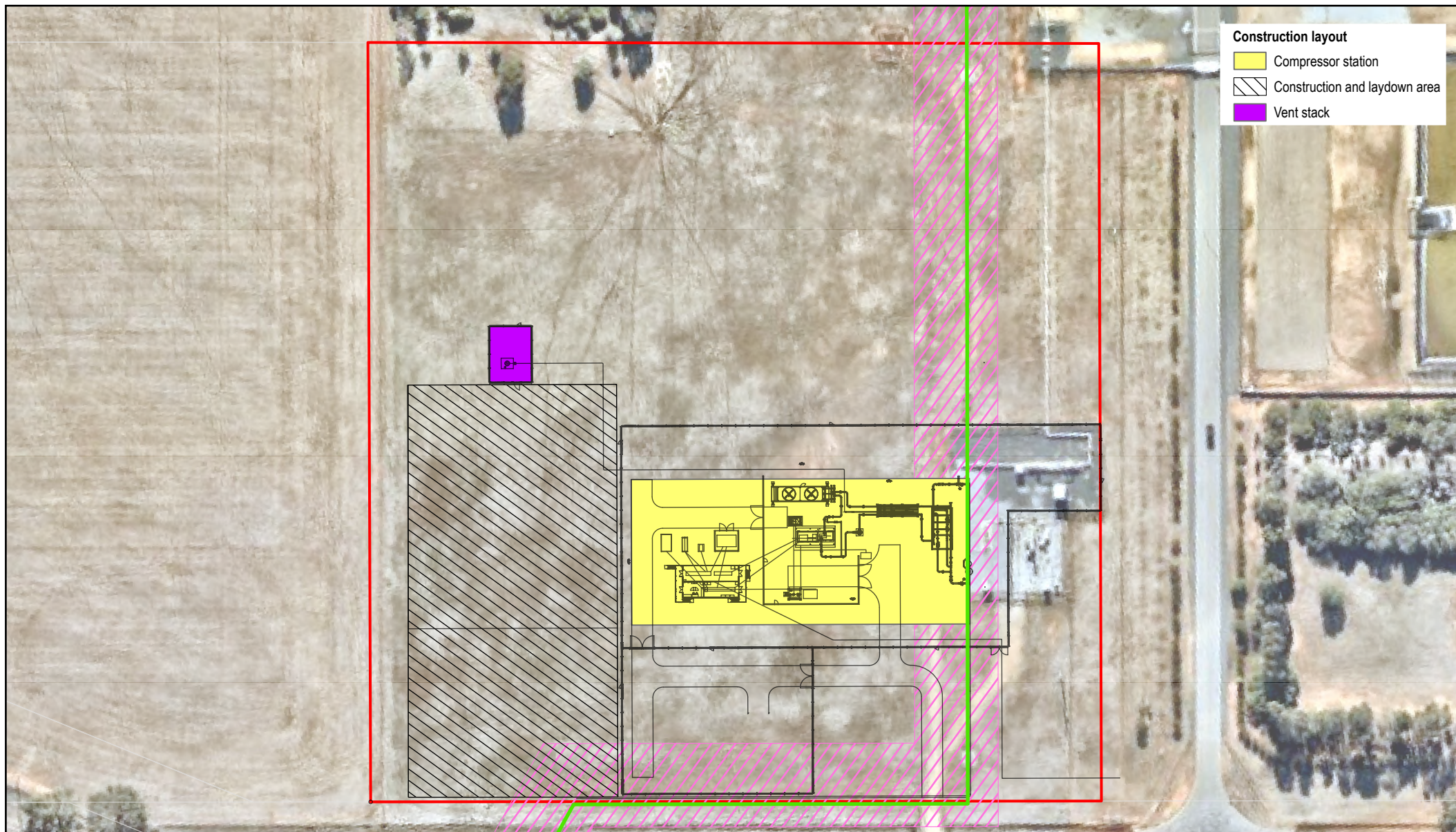
The proposed modification would have a construction and operation footprint of 4.6 ha and would be wholly contained within Lot 781/DP 878179.

Construction activities associated with the proposed modification are:

- **Site preparation**
  - Implement construction erosion and sediment controls.

- Mobilise construction equipment.
  - Clear vegetation (as required).
  - Establish construction compounds / work areas and associated internal roads and ramps to facilitate access to work areas.
  - Establish power, water and other utilities to the proposed site.
- **Construction of UCS**
- Site bulk earthworks including excavation for buried services and cut/fill to establish levels for infrastructure installation.
  - Install steel piles.
  - Install associated steel structures, prefabricated piping, electrical equipment and instrumentation.
  - Supply and install communication and controls infrastructure.
  - Pre-commissioning and commissioning of UCS.
  - Demobilisation of construction equipment.

The construction layout of the proposed modification is presented in Figure 3.1.

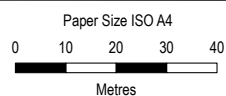


**Construction layout**

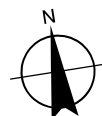
- Compressor station
- Construction and laydown area
- Vent stack

**LEGEND**

- Proposed site
- Lot
- Easement
- Culcairn to Wagga Wagga pipeline



Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



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**Proposed construction site layout**

**FIGURE 3.1**



### 3.2.2 Construction hours

The majority of construction would be undertaken within the recommended standard construction hours in accordance with the Interim Construction Noise Guideline (DECCW, 2009) being:

- Monday to Friday between the hours of 7:00 am to 6:00 pm.
- Saturday between the hours of 8:00 am to 1:00 pm.

In addition, approval is sought to undertake work outside of standard hours as follows:

- Saturdays: 7:00 am to 6:00 pm
- Sundays and/or public holidays between 7:00 am to 6:00 pm.

Works outside of the standard construction hours are proposed for site preparation works including access upgrades and bulk earthworks, and construction of the UCS. In accordance with the *Interim Construction Noise Guideline* (DECC, 2009) justification should be provided to relevant authorities for works outside standard construction hours. The Interim Construction Noise Guideline notes that only works on public infrastructure need to be undertaken outside recommended standard hours, based on the requirement to sustain the operational integrity of public infrastructure. Included in this are utilities which includes electricity or gas infrastructure.

Whilst the pipeline and associated gas compression station are not necessarily public infrastructure, they do provide for increased service of gas resources to the greater community and therefore provide a justification for the proposed construction hours in the modification. In any event, construction noise outside of standard construction hours should aim to achieve the construction noise management levels relevant to the out of hours periods.

Additionally, the proposed extended working hours for construction activities would reduce the overall construction timeframe of the proposed modification, including the length of time that individual receivers are exposed to noise and maximise the use of the specialised workforce once mobilised to site.

During the commissioning phase, UCS activities would occur between 7:00 am and 6:00 pm seven days a week, with the exception of the final two weeks of commissioning activities which would be for 24 hours.

Potential impacts and justification of proposed works outside of the standard construction hours have been assessed in the Noise and Vibration Assessment and are summarised in Section 6.1.

### 3.2.3 Construction workforce

Construction of the UCS will require an average workforce of 40 full-time equivalent personnel, with a peak of 65 FTE personnel over the 15-month construction and commissioning period. Mobilisation and demobilisation of the workforce would likely be from the Wagga Wagga Airport. The workforce would commute to the proposed site each day from local areas where they will reside temporarily for the duration of construction works. APA will work with the construction contractor to prioritise engagement of local resources where possible. Potential social and economic impacts associated with workforce accommodation requirements have been assessed in the Social and Economic Impact Assessment, included as Appendix I and summarised in Section 6.6.

No operational staff would be required as the proposed modification would be operated remotely. Operational staff would only be required for maintenance works that would occur as required during the operational life of UCS.

### 3.2.4 Traffic and access

Construction is expected to require a daily total of 32 heavy vehicle movements and 66 light vehicle movements. Peak hour vehicle movements are expected to be 23 light vehicles and eight heavy vehicles. Construction and personal vehicles would be parked within the laydown area within the proposed site (refer to Figure 3.1).

The major road to access the proposed site is via Uranquinty Cross Road. An existing access road is present within the proposed site which provides access to the APA owned metering station for the Culcairn to Wagga Wagga Pipeline infrastructure (refer to Figure 1.2).

The indicative traffic generation for the construction works is shown in Table 3.1.



**Table 3.1** Anticipated construction traffic generation (daily peaks)

| Construction activity                                                                                       | Trips     |           | Vehicle movements |           |
|-------------------------------------------------------------------------------------------------------------|-----------|-----------|-------------------|-----------|
|                                                                                                             | LV        | HV        | LV                | HV        |
| Construction stage – Daily vehicles                                                                         |           |           |                   |           |
| Mobilisation of construction equipment and establishment of access                                          | 13        | 6         | 23                | 12        |
| Earthworks and piling                                                                                       | 6         | 4         | 12                | 8         |
| Transportation of construction workforce*                                                                   | 3         | 4         | 6                 | 8         |
| Installation of structural, mechanical and piping structures, and electrical and instrumentation equipment* | 20        | 11        | 40                | 22        |
| Pre-commissioning and commissioning of compressor station                                                   | 11        | 2         | 22                | 4         |
| Demobilisation of construction and commissioning equipment                                                  | 13        | 5         | 26                | 10        |
| <b>Total (daily)</b>                                                                                        | <b>66</b> | <b>32</b> | <b>132</b>        | <b>64</b> |
| <b>Total (worst-case)</b>                                                                                   | <b>23</b> | <b>15</b> | <b>46</b>         | <b>30</b> |

\*Worst-case scenario activity

Section 6.5 further describes the proposed construction traffic routes, the proposed assessment method for traffic and access and the potential impacts of the proposed modification on local traffic.

## 3.2.5 Equipment and materials

The type and quantity of plant and equipment would vary depending on the construction staging and methods and would be determined by the construction contractor. Indicative equipment and materials are outlined in Table 3.2.

**Table 3.2** Indicative plant and equipment

| Activity                        | Construction equipment                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Site establishment              | <ul style="list-style-type: none"> <li>– Grader</li> <li>– Excavator 35 tonne (tracked)</li> <li>– Dump truck</li> <li>– Roller</li> <li>– D7R Dozer, D8T Dozer</li> <li>– Scraper</li> <li>– Water cart</li> <li>– Wheel loader</li> </ul>                                                                                                                                                    |
| Piling                          | <ul style="list-style-type: none"> <li>– Impact pile</li> <li>– Drilling rig 28 tonne</li> <li>– Piling rig 50 tonne</li> </ul>                                                                                                                                                                                                                                                                |
| Compressor station construction | <ul style="list-style-type: none"> <li>– Angle gridding (steel)</li> <li>– Impact wrench</li> <li>– Telehandler</li> <li>– Air Compressor</li> <li>– Torque gear</li> <li>– Roller</li> <li>– Welding machine</li> <li>– Forklift</li> <li>– Welder</li> <li>– Crane (up to 250 tonne)</li> <li>– Diesel generator</li> <li>– Excavator</li> <li>– Compacter</li> <li>– Scaffolding</li> </ul> |

Construction equipment would be delivered via the contractor's location or delivered to the proposed site. Other construction supplies would likely be sourced by the contractor or local towns as required.

## 3.3 Operation

### 3.3.1 Timing/schedule

The UCS is designed to operate remotely without onsite staff for most of its working life. It would be operated remotely from APA's control centre in Brisbane and can operate up to 24 hours per day, seven days per week. It is anticipated that the UCS would operate intermittently depending upon gas demand throughout the year.

If personnel are required to be present at the site, operation activities would be carried out during daylight hours unless an emergency requires work to be carried out at night. Typical operation activities would include:

- Minor maintenance (testing, cleaning, equipment performance checks).
- Systems assessment, along with calibrations and adjustments where necessary.
- Equipment repair.

Site personnel would carry out inspections ranging from daily inspections to more rigorous inspections that may vary in frequency, dependent on the works. Major services and engine overhauls would be carried out at set intervals subject to equipment condition, manufacturer recommendations and run hours.

Equipment would undergo regular compliance checks during the life of the compressor station and this would occur every one to four years depending on the frequency of each equipment type. Major services and engine overhauls would likely be carried out every five to ten years or as per the manufacturer's standard. The UCS would operate according to any existing environmental management plans for the Culcairn to Wagga Wagga Pipeline and any environmental plans prepared for the proposed modification. Any applicable manufacturer standards for operation would also be implemented.

An example compressor station and vent stack are presented on Figure 3.2. The proposed operational site layout is presented on Figure 3.3.



**Figure 3.2** Compressor station and vent stack example

### **3.3.2 Workforce**

Maintenance activities of UCS would require small teams on an ad-hoc basis throughout the lifetime of the compressor station. The number of personnel and duration of ad-hoc works would depend on the type of maintenance work required.

### **3.3.3 Operational traffic and access**

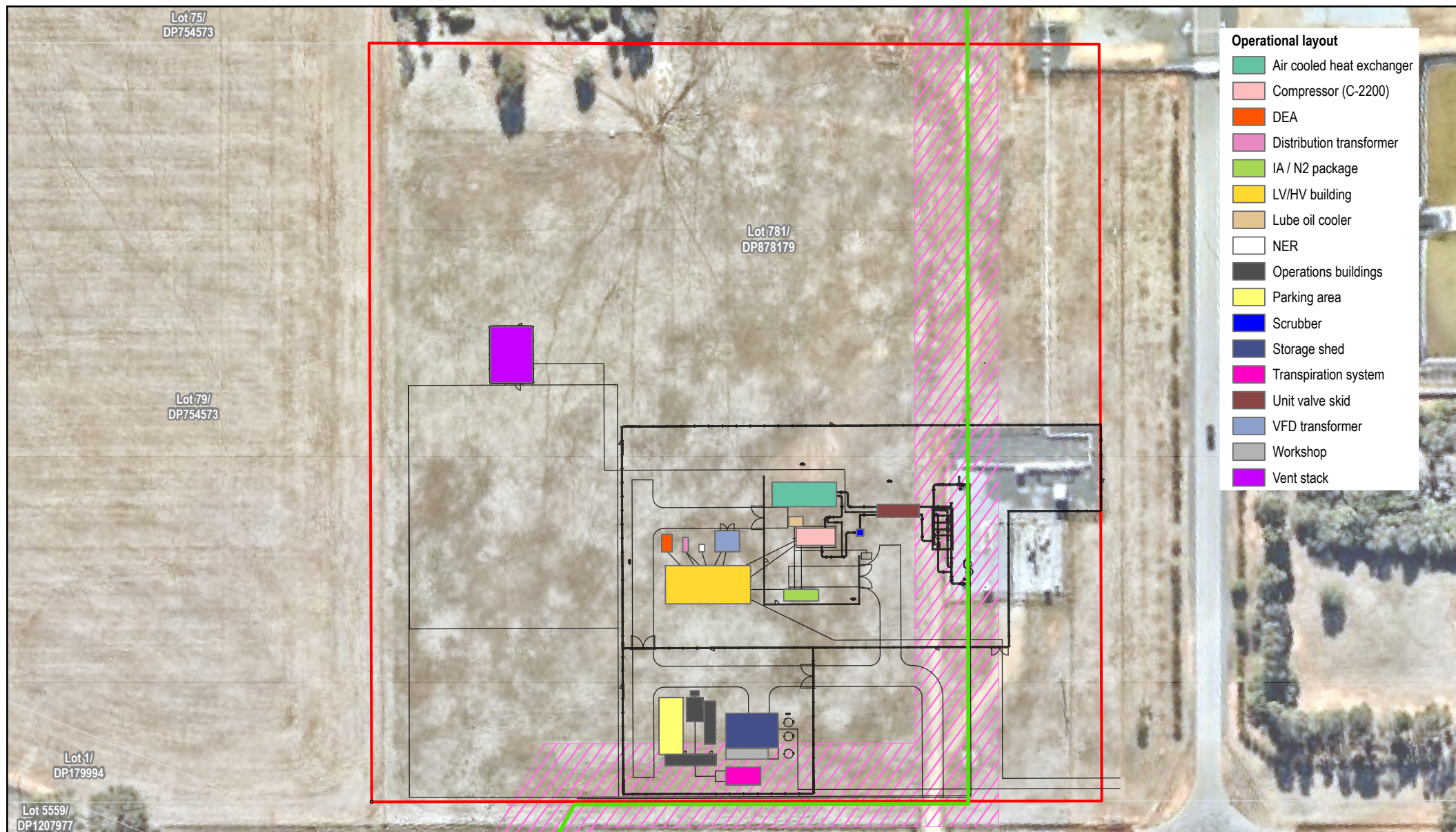
Access to the proposed site would continue to be from the existing access point at Uranquinty Cross Road for operation and ad-hoc maintenance activities following construction. No new access points are proposed. As the UCS would be designed to be remotely operated without on-site staff, vehicle movements to and from the proposed site during operations would be minimal.

## **3.4 Decommissioning and rehabilitation**

The post-construction phase would likely involve rehabilitation of temporary disturbance areas back to their original state, which may include filling excavated areas, reinstating topsoil and revegetation of disturbed areas.

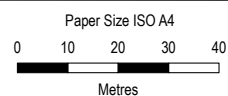
The proposed site would be fully rehabilitated following decommissioning and removal of the compressor station and supporting infrastructure from site at the end of its design life, which is estimated to be around 25 years.



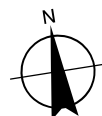


## LEGEND

- Proposed site
- Lot
- Easement
- Culcairn to Wagga Wagga pipeline



Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



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**Proposed operational site layout**

**FIGURE 3.3**

## 4. Statutory context

This section describes the relevant NSW regulatory and policy framework under which the proposed modification will be assessed and determined. A statutory compliance table is provided in Appendix C.

### 4.1 Key NSW legislation

#### 4.1.1 Environmental Planning and Assessment Act 1979

The EP&A Act is the principal law regulating development in NSW. It establishes a regime for preparing development applications, assessment of the environmental impacts of a proposed modification, and the determination of those applications.

Part 5, Division 5.2 of the EP&A Act provides for the declaration, assessment and approval of SSI projects.

The Culcairn to Wagga Wagga Pipeline was approved under the Pipelines Act and has now been transitioned to SSI by order of the Minister for Planning and Public Spaces, which took effect by publication in the NSW Government Gazette on 28 July 2023. The SSI approval (SSI-65512969) for the proposed modification can be modified under section 5.25 of the EP&A Act.

As the modification is now an SSI modification application, the Minister for Planning and Public Spaces is the approval authority for the proposed modification.

#### 4.1.2 Pipelines Act 1967

A licence to construct, operate and maintain a pipeline is required under the Pipelines Act. The Culcairn to Wagga Wagga Pipeline PL23 was granted in 1997 by the then Minister for Energy under the Pipelines Act.

Section 18 of the Pipelines Act provides for a licensee to apply for a variation to a licence. A variation to PL23 would be sought to amend it to include the UCS as Modification 1.

#### 4.1.3 Other NSW legislation

Other NSW legislation and their relevance to the proposed modification are outlined in Appendix C.

As per section 5.22(2) of the EP&A Act environmental planning instruments do not apply in respect of SSI, except in the application of declaring infrastructure to be SSI. Consideration to environmental planning instruments that would apply to the proposed modification if it was not declared SSI is provided in Appendix C.

### 4.2 Commonwealth legislation

#### 4.2.1 Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides the legal basis to protect and manage internationally and nationally important flora, fauna, ecological communities, heritage places and water resources which are deemed to be Matters of National Environmental Significance (MNES).

Under the EPBC Act, actions that will, or are likely to, have a significant impact on a MNES are deemed to be controlled actions and can only proceed with the approval of the Commonwealth Minister for the Environment and Water. An action that may potentially affect a MNES has to be referred to the Minister for determination as to whether it is a controlled action. If deemed a controlled action, the modification is assessed under the EPBC Act. MNES defined under the EPBC Act are:

- World Heritage properties
- National Heritage places
- Wetlands of international significance listed under the Ramsar Convention



- Threatened flora and fauna species and ecological communities
- Migratory species
- Commonwealth marine areas
- Great Barrier Reef Marine Park
- Nuclear actions (including uranium mining)
- Water resources, in relation to coal seam gas, large coal mining development or unconventional gas developments.

Of the nine MNES that are regulated by the EPBC Act, desktop searches identified threatened flora and fauna species and ecological communities as being potentially impacted by the proposed modification. Ecology surveys undertaken evaluated whether any MNES were applicable to the proposed modification that could require referral to the Commonwealth Minister for Environment and Water. No EPBC Act listed threatened species, or ecological communities were identified, and the proposed modification does not require referral under the EPBC Act.

A Biodiversity Development Assessment Report (BDAR) has been undertaken for the proposed modification which includes assessment and potential impacts to MNES. A summary is provided in Section 6.3.

## 4.2.2 Native Title Act 1993

The *Native Title Act 1993* recognises and protects native title rights in Australia. It allows a native title determination application (native title claim) to be made for land or waters where native title has not been extinguished. A register of native title claims is maintained by the National Native Title Tribunal.

A search of the National Native Title Tribunal undertaken on in June 2025 revealed no native title claims for the proposed site and its surrounding area. An Aboriginal Cultural Heritage Assessment Report (ACHAR) has been prepared for the proposed modification which included engagement with Registered Aboriginal Parties (RAPs) and a site walkover with representatives from the Wagga Wagga Local Aboriginal Land Council. A summary is provided in Section 6.8.

## 5. Community and stakeholder engagement

### 5.1 Overview

Consultation with key stakeholders has been ongoing during the development of this proposed modification and will continue as needed, through all stages of the assessment of the modification and following its determination.

The ongoing consultation supports:

- compliance with statutory requirements and expectations
- an informed community and key stakeholders
- understanding and incorporating community feedback and key issues raised on the proposed modification.

Stakeholders were identified for the proposed modification and consultation has been undertaken as described below. Communication methods to date have included face-to-face and video conference meetings, phone calls and two mailouts with key stakeholders.

As a general approach, APA has attempted to obtain contact details for identified sensitive receivers to engage directly with the potentially impacted parties.

### 5.2 Government engagement

#### 5.2.1 Department of Planning, Housing and Infrastructure

A Scoping Report for the proposed modification was submitted to the Department of Planning, Housing and Infrastructure (DPHI) in November 2023. DPHI confirmed on 18 January 2024 that the proposed modification could be assessed as a section 5.25 modification under the EP&A Act. DPHI indicated that in addition to the assessment outlined in the Scoping Report, assessment would be required for potential social and economic impacts associated with workforce accommodation requirements and justification for proposed works outside of standard construction hours.

Social and economic impacts associated with workforce accommodation has been assessed in the Social and Economic Impact Assessment and is summarised in Section 6.6. Justification for proposed works outside of standard construction hours has been assessed in the Noise and Vibration Assessment and is summarised in Section 6.1.

Additional engagement with DPHI has been undertaken on 23 April and 20 May 2025 prior to the submission of the Modification Report to provide the Department with an overview of the proposed modification and confirm the approach for the electricity connection works being undertaken as a Part 5, Division 5.1 of the EP&A Act on behalf of Essential Energy. DPHI confirmed acceptance of the approach on 29 May 2025.

#### 5.2.2 NSW Heritage

Engagement with NSW Heritage was undertaken in April and May 2025 to confirm the approach for Aboriginal consultation and assessment for the proposed modification. NSW Heritage recommended that additional consultation with the wider Aboriginal community be undertaken, and an ACHAR be prepared. A compressed consultation process was endorsed by NSW Heritage which involved:

- Completion of Stage 1 (notification of the proposed modification and registration of interest) of the Community Consultation Process as per the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010a) guidelines.
- Completion of Stage 2 to 4 of the Consultation Process
  - Stage 2: presentation of information about the proposed modification
  - Stage 3: gathering information about cultural significance
  - Stage 4: review of draft ACHAR as a combined process.

APA proposed to utilise the RAPs established for the Riverina Storage Pipeline (Stage 4 of the East Coast Grid Expansion Plan, refer to Figure 1.1) which overlaps the proposed site. A meeting on 28 May 2025 between APA, GHD, heritage consultants OzArk and NSW Heritage personnel confirmed endorsement of this approach by NSW Heritage.

Outcomes from consultation with the RAPs is in progress and will be included in an updated ACHAR which will be provided at the Response to Submissions phase. A summary is provided in Section 6.9.

### 5.2.3 Wagga Wagga Council and Wagga Wagga Business Chamber

Consultation with Wagga Wagga Council and Wagga Wagga Business Chamber was undertaken in April 2025 regarding social and economic impacts related to workforce accommodation. Responses were received via teleconference and email.

Outcomes of the consultation are provided in the Social and Economic Impact Assessment and summarised in Section 6.6.

## 5.3 Network operators

### 5.3.1 Essential Energy

Consultation with Essential Energy commenced in November 2024 regarding a network connection for the UCS. Essential Energy issued a Connection Investigation Response to APA on 13 May 2025 confirming that an upgrade to the 22 kV conductor from the Uranquinty Zone Substation and extension of approximately 250 m of the network from the Uranquinty Power Station to the proposed site would be required, along with options for a larger network connection and the installation of a new feeder.

Consultation with Essential Energy is ongoing as network studies are undertaken and the design is matured and will continue regarding the network connection and Part 5, Division 5.1 assessment.

### 5.3.2 Origin Energy

Consultation with Origin Energy has been ongoing regarding accessing Origin owned land for noise monitoring. Further consultation including a project briefing and discussions regarding establishment of an easement on Origin owned land to enable the extension of the network connection is also underway.

## 5.4 Community engagement

A community consultation letter describing the proposed modification was mailed out to identified residences within a 10 km radius and within the town of Uranquinty in February 2024. The letter was sent to about 500 properties, including:

- Properties located in the town of Uranquinty
- Properties located within 5km of the proposed site, in particular:
  - Properties surrounding the proposed site to the north, west and south
  - Properties within Uranquinty town to the east.

Four community responses were received regarding the proposed modification. An overview of the responses received are provided in Table 5.1.

An additional round of community consultation letters to the same stakeholders was distributed in April 2025 to provide community members with updated information and provide further opportunity for input. One community response was received during the second round of consultation letters and a summary of the response received is included in Table 5.1.

**Table 5.1**      *Community consultation*

| Community member                                                             | Date             | Comment                                                                                                                  |
|------------------------------------------------------------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------|
| Resident 1                                                                   | 28 February 2024 | Raised noise concerns due to the Origin Uranquinty Power Station.                                                        |
| Resident 2                                                                   | 28 February 2024 | Requested information on location of compressor station in relation to the Uranquinty Power Station and Uranquinty town. |
| Uranquinty Progress Association                                              | 28 February 2024 | Requested information on proposed modification including location, size and impacts to residents and farmers.            |
| Phil McMurray, Director of Wagga City Council                                | 28 February 2024 | Requested general information to provide to community meeting occurring that day.                                        |
| Rachel Whiting, CEO and Director of Regional Development Australia, Riverina | 15 April 2025    | Requested information on the equipment within the compressor station and opportunities for local businesses.             |

APA has responded to all responses received and continues ongoing consultation with nearby community members.

## 5.5 Aboriginal engagement

An archaeological field survey was undertaken in accordance with the *Code of Practice for the Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010b) and the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011). Representatives from the Wagga Wagga Local Aboriginal Land Council (LALC) attended the survey with heritage consultants OzArk on 13 September 2023.

No Aboriginal sites or areas of archaeological sensitivity were identified during the survey, nor was there any information indicating that sites may be present. Representatives from the Wagga Wagga Local Aboriginal Land Council noted during the inspection that the proposed site was highly disturbed and the potential for any Aboriginal cultural values to be present was greater closer to Sandy Creek, approximately 1.9 km northeast from the proposed site.

Following consultation with NSW Heritage as described in Section 5.2.2, additional consultation with identified RAPs has occurred and the outcomes of consultation will be provided in an updated ACHAR. The updated ACHAR and RAP consultation outcomes will be provided at the Response to Submissions phase.



## 6. Assessment of impacts

This section provides the key outcomes of technical studies prepared to assess the potential impacts of the proposed modification on the environment. Assessments of potential impacts for the construction and operational stages have been undertaken, including the preparation of technical assessments by specialists. Given that the proposed modification also includes the decommissioning of infrastructure and rehabilitation at the end of the UCS life, potential impacts during these stages have been considered.

### 6.1 Noise and vibration

This section provides a summary of the noise and vibration impact assessment prepared by GHD. A full copy of the report is provided in Appendix D.

#### 6.1.1 Methodology

The noise and vibration impact assessment included:

- identifying the noise and vibration assessment study area (defined as a 3 km buffer around the proposed site) and sensitive receivers
- undertaking long-term noise monitoring at two residential receivers from 20 March to 22 April 2025
- identifying indicative construction scenarios and representative plant and equipment
- confirming assessment criteria for construction and operation
- assessing predicted construction and operation noise levels using SoundPLAN 8.2 modelling software
- calculating and assessing construction vibration using source vibration levels and minimum working distances in accordance with relevant guidelines
- assessing the potential noise and vibration impacts of constructing the proposed modification in accordance with the *Interim Construction Noise Guideline* (DECC, 2009) and relevant vibration guidelines and standards, including *Assessing Vibration: a technical guideline* (DEC, 2006)
- assessing the potential noise impacts of operating the UCS in accordance with the *Noise Policy for Industry* (NSW EPA, 2017)
- assessing the potential road traffic noise impacts of constructing and operating the proposed modification in accordance with the *NSW Road Noise Policy* (DECCW, 2011)
- identifying measures to avoid, minimise and manage identified impacts.

Further information and a detailed description of the assessment criteria is provided in section 2 of Appendix D.

#### 6.1.2 Existing environment

##### Sensitive receivers

Receivers sensitive to noise and vibration can be categorised as:

- residential dwellings
- non-residential land uses (including education, commercial and industrial land uses).

The closest residential dwellings are located about 880 m and 1.1 km south-east of the proposed site. There is also one residential dwelling located about 1.3 km north-west of the proposed site (refer to Figure 1.2). Approximately 3.2 km to the south-east, the Uranquinty town is located within which several sensitive receivers were also identified. These sensitive receivers are predominantly residential receivers, with a few non-residential receivers, such as the Saint James Uniting Church, the Seven Day Adventist Reform Church and the Uranquinty Community Hall.

## Existing background noise levels

Long-term unattended noise monitoring was undertaken at two residential locations and on the proposed site to characterise the existing ambient noise environment of the study area at the following locations:

- Monitoring location (ML1), located on the proposed site
- ML2, was a location agreed with the landholder and located 750 metres from the Uranquinty Power Station and 480 metres from the residential receiver R1, at 70 Hanging Rock Road, Uranquinty
- ML3, located at 449 Uranquinty Cross Road, Uranquinty.

Residential receivers and monitoring locations are presented on Figure 6.1.

The proposed modification is located next to the Uranquinty Power Station. The existing noise levels of the Uranquinty Power Station were monitored to inform the current noise environment of the surrounding area, and to consider potential cumulative noise impacts for UCS. Noise monitoring data was analysed to assess the existing noise levels from the Uranquinty Power Station at the closest sensitive receivers using the following approach:

- APA provided gas flow rate data of their meter station to the power station, which indicates when the Uranquinty Power Station was operational during the monitoring period. This data was filtered for gas flow rates of more than 10 TJ/d to exclude small flows, which are unlikely to be related to operation of the Uranquinty Power Station.
- The average  $L_{Aeq}$ ,  $L_{A90}$  and  $L_{Ceq}$  noise levels when the Uranquinty Power Station was operational and not operational were determined for each time period to establish the difference in noise levels and determine the contribution of the Uranquinty Power Station relative to the background noise level.

The results from the long-term monitoring indicates that rating background levels are equal to, or below the minimum rating background levels from the *Noise Policy for Industry* (NSW EPA, 2017) which is 35, 30 and 30 dBA during the daytime, evening and nighttime respectively. The noise monitoring results against minimum rating background levels is outlined in Table 6.1.

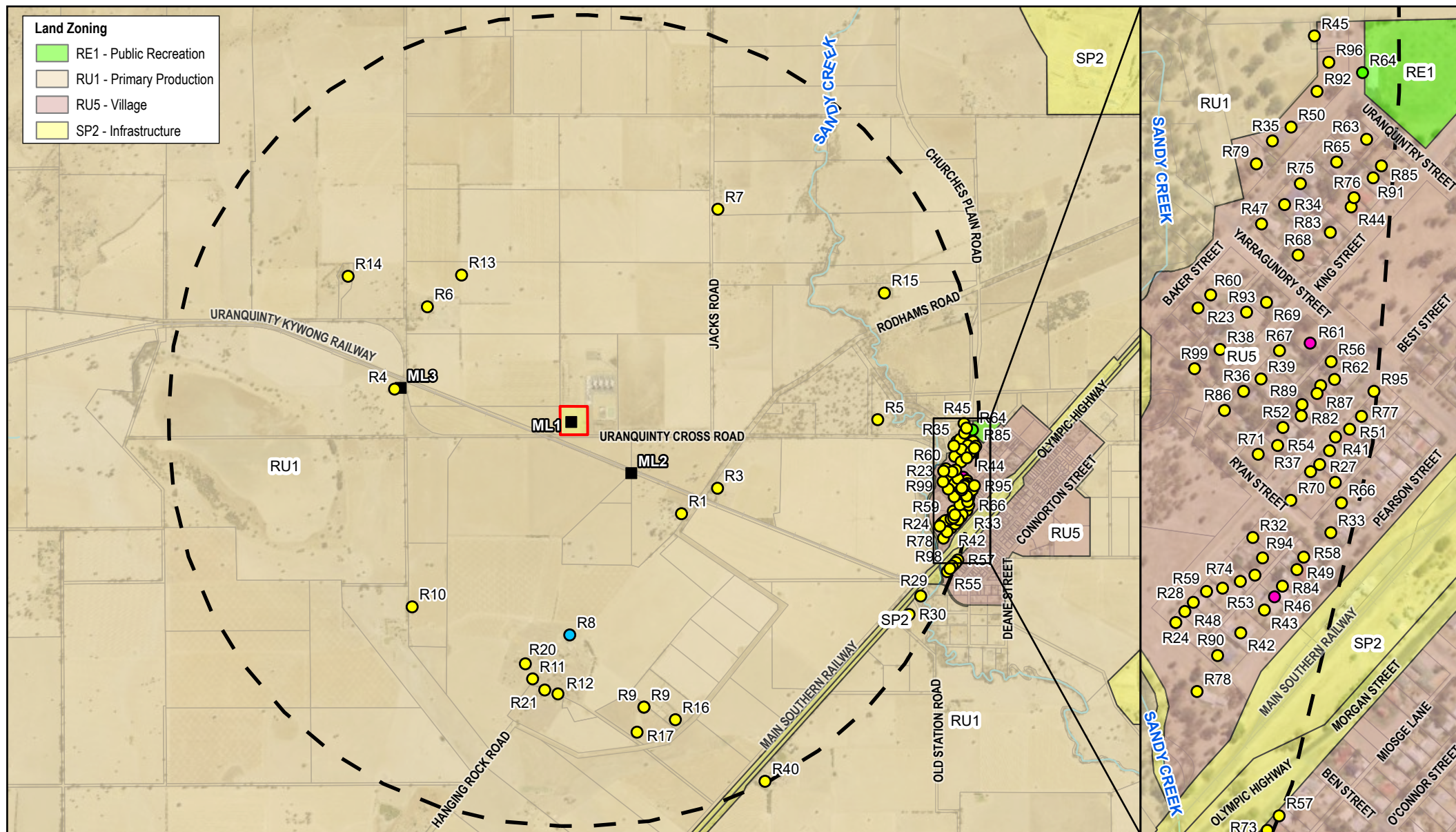
**Table 6.1** Unattended noise monitoring results

| Location | Address                               | Rating background level (dBA) |                      |                      | Ambient noise descriptors (dBA) |         |       |
|----------|---------------------------------------|-------------------------------|----------------------|----------------------|---------------------------------|---------|-------|
|          |                                       | Day                           | Evening              | Night                | Day                             | Evening | Night |
| ML1      | Proposed modification site            | 35 (28)                       | 32                   | 33                   | 51                              | 41      | 41    |
| ML2      | 70 Hanging Rock Road, Uranquinty      | 35 (27) <sup>1</sup>          | 30                   | 30 (23) <sup>1</sup> | 47                              | 55      | 48    |
| ML3      | 449 Uranquinty Cross Road, Uranquinty | 35 (27) <sup>1</sup>          | 30 (24) <sup>1</sup> | 30 (19) <sup>1</sup> | 47                              | 44      | 41    |

<sup>1</sup> The minimum rating background levels of 35, 30 and 30 dBA for the daytime, evening and nighttime respectively have been adopted where the measured rating background level is lower than the minimum rating background level, indicated by the number in brackets.

The Uranquinty Power Station contributes to background noise levels when it is operating. During the long-term monitoring the Uranquinty Power Station operated for 13 of the 34 days, typically during 5 pm and 9 pm. Noise levels during these operational times recorded significantly higher at the proposed site (directly adjacent to the Uranquinty Power Station) and slightly higher at the ML2 receiver (70 Hanging Rock Road). At ML3 (449 Uranquinty Cross Road) the  $L_{Aeq}$  and  $L_{A90}$  noise levels did not change when the Uranquinty Power Station was operational. As this monitoring location is located at a residential receiver, the measured noise levels at this receiver have been considered representative.

The noise levels at ML3 are regarded as representative, as this location is a residential area, unlike the other monitoring locations. At ML3, the  $L_{Aeq}$  noise level from the Uranquinty Power Station is below 41 dBA, given that the average  $L_{Aeq}$  noise levels remain consistent regardless of whether the Uranquinty Power Station is operational. However, it is important to note that the Uranquinty Power Station does contain a low frequency noise component. The one-third octave band data at ML3 was analysed and found sporadic exceedances of the low frequency noise thresholds in the 40 and 50 Hz bands, which are generally limited to 5 dB or less and would result in a 2 dB penalty to account for low frequency noise characteristics.



## LEGEND

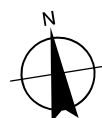
- Study area
- Proposed site
- Lot
- Railway
- ~ Waterway
- Monitoring locations

## Sensitive receivers

- Commercial
- Passive Recreation
- Place of Worship
- Residential

Paper Size ISO A4  
0 250 500 750 1,000  
Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



East Australian Pipeline Pty Ltd  
Culcairn to Wagga Wagga Gas Pipeline –  
MOD 1 Uranquinty Compressor Station  
Modification Report

**Sensitive receivers and  
monitoring locations**

Project No. 12614690  
Revision No. 0  
Date 10/06/2025

**FIGURE 6.1**

Differences in noise levels between when the Uranquinty Power Station was and wasn't operating are presented in Table 6.2.

**Table 6.2** *Difference in noise levels with and without Uranquinty Power Station operating*

| Location | Period  | Average noise levels without power station operating |                  |                  | Average noise levels with power station operating |                  |                  | Difference (dB)  |                  |                  |
|----------|---------|------------------------------------------------------|------------------|------------------|---------------------------------------------------|------------------|------------------|------------------|------------------|------------------|
|          |         | L <sub>Aeq</sub>                                     | L <sub>Ceq</sub> | L <sub>A90</sub> | L <sub>Aeq</sub>                                  | L <sub>Ceq</sub> | L <sub>A90</sub> | L <sub>Aeq</sub> | L <sub>Ceq</sub> | L <sub>A90</sub> |
| ML1      | Evening | 37                                                   | 51               | 32               | 43                                                | 71               | 41               | 6                | 20               | 9                |
| ML2      | Evening | 44                                                   | 52               | 39               | 46                                                | 68               | 42               | 2                | 16               | 3                |
| ML3      | Evening | 41                                                   | 47               | 31               | 41                                                | 58               | 31               | 0                | 11               | 0                |

## 6.1.3 Noise criteria

### Construction noise management levels

The construction noise management levels detailed in Table 6.3 have been adopted for the proposed modification for potential construction noise impacts at residential receivers. The table specifies which noise management levels is applicable during the proposed construction hours.

**Table 6.3** *Adopted construction noise management levels at residential receivers*

| Assessment period                     | Adopted noise management level<br>L <sub>Aeq,15min</sub>               | Applicable times                                                              |
|---------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| Recommended standard hours            | 45 dBA (noise affected) <sup>1</sup><br>75 dBA (highly noise affected) | Monday to Friday – 7am to 6pm<br>Saturday – 8am to 1pm                        |
| Outside of recommended standard hours | 40 dBA (noise affected) <sup>1</sup>                                   | Saturday – 7am to 8am and 1pm to 6pm<br>Sunday or public holiday – 8am to 6pm |
|                                       | 35 dBA (noise affected) <sup>2</sup>                                   | Sunday or public holiday – 7am to 8am                                         |

Notes: 1. Based on the NPfl recommended minimum RBL of 35 dBA for the day period (7am to 6pm).

2. Based on the NPfl recommended minimum RBL of 30 dBA for the evening period (6pm to 10pm) and night period (10pm to 7am, or 8am on Sundays).

The noise management levels for non-residential receivers identified are provided in Table 6.4.

**Table 6.4** *Adopted construction noise management levels at non-residential receivers*

| Sensitive receiver type  | Adopted noise management level<br>L <sub>Aeq,15min</sub> | Applicable times |
|--------------------------|----------------------------------------------------------|------------------|
| Places of worship        | 55 dBA                                                   | When in use      |
| Passive recreation areas | 60 dBA                                                   |                  |
| Commercial premises      | 70 dBA                                                   |                  |
| Industrial premises      | 75 dBA                                                   |                  |

### Operation noise

Intrusive noise criteria, amenity criteria, and project-specific noise trigger levels (PNTL) were determined for the operation of the proposed modification in accordance with the *Noise Policy for Industry* (NSW EPA, 2017) as outlined in Table 6.5.

**Table 6.5** Operational noise trigger levels

| Receiver                    | Assessment period <sup>1</sup> | Intrusive noise level<br>L <sub>Aeq,15min</sub> dBA | Project amenity<br>noise level <sup>2</sup><br>L <sub>Aeq,15min</sub> dBA | PNTLI<br>L <sub>Aeq,15min</sub> dBA |
|-----------------------------|--------------------------------|-----------------------------------------------------|---------------------------------------------------------------------------|-------------------------------------|
| Rural residential receivers | Day                            | 40                                                  | 48                                                                        | <b>40</b>                           |
|                             | Evening                        | 35                                                  | 43                                                                        | <b>35</b>                           |
|                             | Night                          | 35                                                  | 38                                                                        | <b>35</b>                           |

## Road traffic noise

The proposed modification road noise criteria as outlined in the *NSW Road Noise Policy* (DECCW, 2011) is provided in Table 6.6.

**Table 6.6** Road traffic noise criteria

| Road category                       | Development type                                                                                                                          | Day 7 am to 10 pm       | Night 10 pm to 7 am    |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------------------|
| Freeway/arterial/sub-arterial roads | Existing residence affected by additional traffic on existing freeways / arterial / sub-arterial roads generated by land use developments | 60 L <sub>eq,15hr</sub> | 55 L <sub>eq,9hr</sub> |
| Local roads                         | Existing residence affected by additional traffic on existing local roads generated by land use developments                              | 55 L <sub>eq,1hr</sub>  | 50 L <sub>eq,1hr</sub> |

The proposed modification would be operated remotely with no on-site staff for day-to-day operation. Operational traffic to the proposed modification site would be limited to personnel required for ad-hoc maintenance works, which would typically be a limited number of personnel. As such, noise impacts from operational traffic would be negligible and therefore have not been assessed.

## 6.1.4 Potential impacts

### Construction noise

To assess the potential impacts of construction noise, indicative construction scenarios (including equipment and plant that could be used) were identified. This information was used to model maximum construction noise levels that may be experienced at each sensitive receiver for each stage of construction.

Three indicative scenarios were developed to assess potential construction noise impacts:

- CS1 - Site Preparation, access upgrades and bulk earthworks
- CS2 – Piling
- CS3 - Construction of the compressor station.

Potential impacts during standard construction hours and outside standard construction hours are summarised below.

#### Standard construction hours (45 dBA noise management level)

During standard construction hours (Monday-Friday 7am-6pm and Saturday 8am-1pm), the following impacts are predicted:

- Piling works (CS2): 6 residential receivers would experience noise levels exceeding the 45 dBA noise management level by up to 7 dBA
- Site preparation, access upgrades and bulk earthworks (CS1): 1 residential receiver would exceed the noise management level by up to 1 dBA
- Construction of compressor station (CS3): no residential receivers would exceed the noise management level.



All predicted noise levels remain below the highly noise affected level of 75 dBA at all residential receivers and non-residential receivers are not predicted to experience noise levels above the respective noise management level.

#### Outside of standard construction hours – daytime (40 dBA noise management level)

For construction during the daytime, outside of standard hours (Saturday 7am-8am and 1pm-6pm, Sunday/public holidays 8am-6pm), impacts are predicted as follows:

- CS1 (Site preparation): 5 receivers exceeding the noise management level by up to 6 dBA
- CS3 (Construction of compressor station): 4 receivers exceeding the noise management level by up to 3 dBA.

#### Outside standard construction hours – early morning (35 dBA noise management level)

For construction during early morning (Sunday/public holidays 7am-8am), impacts are predicted as follows:

- CS1 (Site preparation): 17 residential receivers would exceed the noise management level in the following perception categories:
  - 12 receivers: 1-5 dBA above noise management level (noticeable)
  - 5 receivers: 5-15 dBA above noise management level (clearly audible).
- CS3 (Construction of compressor station): 6 residential receivers would exceed the noise management level in the following perception categories:
  - 2 receivers: 1-5 dBA above noise management level (noticeable)
  - 4 receivers: 5-15 dBA above noise management level (clearly audible).

Construction of the proposed modification would take approximately twelve months, followed by three months of commissioning. The intensity of the construction works is likely to vary throughout the construction of the proposed modification. During the commissioning phase, no significant construction noise impacts are anticipated as required works would be minimal.

### Road traffic noise

The increase in road traffic noise level at sensitive receivers located along Olympic Highway and Uranquinty Cross Road indicates that along Olympic Highway the road traffic noise levels do not increase by more than 2 dB and as such no impacts are anticipated at receivers located along the Olympic Highway. Results from the road traffic noise modelling is presented in Table 6.7.

Along the Uranquinty Cross Road, sensitive receivers are anticipated to experience an increase of 3.7 dB during the worst-case peak hour.

**Table 6.7** Construction road traffic noise results

| Road                  | Road type     | Distance to nearest residence (m) | Period | Direction       | Daytime controlling criteria (dBA) | Existing noise level (dBA) | Predicted noise level (dBA) | Noise level increase difference (dB) |
|-----------------------|---------------|-----------------------------------|--------|-----------------|------------------------------------|----------------------------|-----------------------------|--------------------------------------|
| Olympic Highway       | Arterial Road | 20                                | Day    | Northbound      | 60 $L_{Aeq,15hr}$                  | 62                         | 62                          | 0.1                                  |
|                       |               |                                   |        | Southbound      | 60 $L_{Aeq,15hr}$                  | 62                         | 62                          | 0.0                                  |
| Uranquinty Cross Road | Local Road    | 25                                | Day    | Both directions | 55 $L_{eq,1hr}$                    | 54                         | 57                          | 3.7                                  |

### Construction vibration

The most vibration intensive activity associated with the construction of the proposed modification is anticipated to be impact piling or vibratory rollers (13-18 tonnes). Vibrations from this equipment has the potential to exceed the human comfort vibration criteria should these works occur within 100 m of residences. No residences are located within this distance from the proposed site and as such, no adverse human comfort vibration impacts are anticipated.

## Operational noise

Compressor stations can be sources of low frequency noise, which can be considered an annoying characteristic requiring a modifying factor correction analysis. Due to available supplier data being limited to octave band noise levels, in accordance with the *Noise Policy for Industry* (NSW EPA, 2017) a conservative 5 dB penalty was applied to predicted operational noise levels modelled at sensitive receiver locations where the noise level has the potential to contain low frequency characteristics.

The predicted  $L_{Aeq,15min}$  noise levels at sensitive receivers for the proposed modification are presented in Table 6.8 and are assessed against the most stringent PNTL. If noise levels at the receiver are found to include low frequency noise characteristics, a 5 dB penalty is applied as described above and is indicated in brackets.

**Table 6.8** Predicted operational noise levels

| Receiver ID | Address                               | PNTL nighttime $L_{Aeq,15min}$ (dBA) | Predicted operational noise level $L_{Aeq,15min}$ (dBA) | Compliance with the PNTL? |
|-------------|---------------------------------------|--------------------------------------|---------------------------------------------------------|---------------------------|
| R1          | 70 Hanging Rock Road, Uranquinty      | 35                                   | 31                                                      | Yes                       |
| R4          | 449 Uranquinty Cross Road, Uranquinty | 35                                   | 31 (26 + 5) <sup>1</sup>                                | Yes                       |
| R5          | 56 Uranquinty Cross Road, Uranquinty  | 35                                   | 21                                                      | Yes                       |
| R6          | 478 Uranquinty Cross Road, Uranquinty | 35                                   | 27                                                      | Yes                       |
| R7          | 176 Jacks Road, Uranquinty            | 35                                   | 22                                                      | Yes                       |
| R8          | 88 Hanging Rock Road, Uranquinty      | 35                                   | 24                                                      | Yes                       |

1. The predicted operational noise levels are corrected to account for potential low frequency noise characteristics by applying a 5 dB penalty.

The predicted operational noise levels are expected to comply with the PNTLs at all sensitive receivers. Receiver R1 is anticipated to be the most-affected sensitive receiver, experiencing a noise level of 31 dBA.

## Cumulative impacts with Uranquinty Power Station

The proposed modification amenity noise level of 38 dBA is achieved at all sensitive receivers and no additional consideration of cumulative noise impacts would be required in accordance with the *Noise Policy for Industry* (NSW EPA, 2017). Nonetheless, the potential for cumulative noise from the proposed modification and the existing Uranquinty Power Station were assessed against the recommended amenity noise level of 43 dBA ( $L_{Aeq,15min}$ ) for rural receivers during the nighttime.

The UCS would be designed and operated to achieve the PNTL of 35 dBA at the most-affected receiver, while the noise level from the Uranquinty Power Station is considered to be less than 41 dBA at receiver R4. Cumulatively, this would result in a noise level of 42 dBA, which achieves the recommended amenity noise level during the nighttime. The proposed modification would increase the noise levels by 1 dB, which would not be noticeable.

## Decommissioning

The post-construction phase would likely involve rehabilitation of temporary disturbance areas back to their original state, which may include filling excavated areas, reinstating topsoil and revegetation of disturbed areas.

The proposed site would be fully rehabilitated following decommissioning and removal of the compressor station and supporting infrastructure from site at the end of its design life, which is estimated to be around 25 years

Noise impacts during decommissioning of the proposed modification would likely be equal to, or less than during the construction of the proposed modification.

## 6.1.5 Mitigation measures

The proposed mitigation measures to reduce impacts to noise and vibration are provided in Table 6.9.

Table 6.9 Mitigation measures – Noise and vibration

| ID                                             | Mitigation measure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Responsibility   | Timing       |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------|
| <b>Management measures</b>                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                  |              |
| NV-1                                           | Noise generated by any construction, upgrading or decommissioning activities will be minimised in accordance with the best practice requirements outlined in the Interim Construction Noise Guideline (DECC, 2009), or its latest version.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | APA / Contractor | Construction |
| NV-2                                           | <p>An environmental induction will be provided to all employees, contractors and subcontractors entering site. The induction will include, but is not limited to:</p> <ul style="list-style-type: none"> <li>– all relevant project specific and standard noise and vibration mitigation measures</li> <li>– relevant licence and approval conditions</li> <li>– permissible hours of work</li> <li>– location of nearest sensitive receivers</li> <li>– construction employee parking areas</li> <li>– designated loading/unloading areas and procedures</li> <li>– site opening/closing times (including deliveries)</li> <li>– environmental incident procedures.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                             | APA / Contractor | Construction |
| NV-3                                           | <p>Activities on site will be undertaken as per the approved Construction Environmental Management Plan (CEMP) and only during the proposed construction hours. The proposed modification construction hours are:</p> <ul style="list-style-type: none"> <li>– Monday to Friday: 7am to 6pm</li> <li>– Saturday: 7am to 6pm</li> <li>– Sunday and/or Public Holidays: 7am to 6pm.</li> </ul> <p>With the exception of the following circumstances:</p> <ul style="list-style-type: none"> <li>– emergency work to avoid the loss of life, property and/or material harm to the environment</li> <li>– Where police or other authorities determine that the delivery of oversized plant or structures require special arrangements to transport along public roads, these deliveries could be undertaken outside of the recommended standard hours to minimise impacts on the community.</li> <li>– where a negotiated agreement has been reached with affected receivers.</li> </ul> <p>High noise generating works (i.e. piling works) will only be conducted during the ICNG recommended standard construction hours.</p> | APA / Contractor | Construction |
| NV-4                                           | <p>The following requirements will be implemented to manage potential noise impacts during outside of the recommended standard hours:</p> <ul style="list-style-type: none"> <li>– Where reasonable and feasible, restrict construction works that are predicted to exceed the noise management levels outside of standard hours at nearby receivers to standard construction hours only.</li> <li>– Where works are required out of hours, and where reasonable and feasible, only undertake 'low impact noise activities' outside of standard hours. This is defined as construction activities that cause <math>L_{Aeq,15min}</math> noise levels of no more than 5 dB(A) above the RBL for that period.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                      | APA / Contractor | Construction |
| <b>Community consultation and notification</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                  |              |
| NV-5                                           | <p>The following community consultation and notification will be undertaken:</p> <ul style="list-style-type: none"> <li>– Provide at least 7 days' notice to the identified receivers prior to starting work, unless it is emergency works or it is discussed with the affected receivers face-to face. The notification would</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | APA / Contractor | Construction |

| ID                     | Mitigation measure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Responsibility   | Timing       |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------|
|                        | <p>likely be in the form of a letter, including the following information:</p> <ul style="list-style-type: none"> <li>• a description of the works and why they are being undertaken</li> <li>• details of the works that will be noisy</li> <li>• work hours and expected duration</li> <li>• what is being done to minimise the impacts</li> <li>• 24-hour contact number</li> <li>• maintain good communication between the community and staff.</li> </ul> <p>This may include a local community update letter for specific construction activities and a project info line.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |              |
| NV-6                   | <p>Complaints will be managed in accordance with the procedure outlined below. Signage at each site will clearly and visibly provide a contact number and name to receive complaints and enquiries about construction.</p> <p>Potential complaints specific to these works could include:</p> <ul style="list-style-type: none"> <li>– noise impacts from works that significantly affect the identified receivers.</li> <li>– a cluster of noise and/or vibration complaints.</li> </ul> <p>In this instance the response would be to:</p> <ul style="list-style-type: none"> <li>– verbally respond to complainant</li> <li>– provide a written response within seven calendar days if the complaint cannot be resolved verbally</li> <li>– log the complaint, and any actions taken with regards to the complaint within a complaints register</li> <li>– undertake monitoring at the complainant's residence(s)</li> <li>– investigate the nature and reasons of the impact</li> <li>– investigate and implement further mitigation measures to minimise the impact.</li> </ul> | APA / Contractor | Construction |
| <b>Source controls</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                  |              |
| NV-7                   | <p>Quieter and less vibration emitting construction methods will be used where reasonable and feasible, with only the necessary size and power to be used. The noise levels of plant and equipment will have an operating Sound Power Level lower or similar to the levels presented in Table 2.2 of the noise and vibration impact assessment (Appendix D).</p> <p>Broadband reversing alarms will be used in preference to 'beeper' reversing alarms on construction vehicles and machinery.</p> <p>Where vibratory rollers are required during construction, the size of the rollers must be less than 18 tonnes to achieve the safe working distances detailed in Table 2.11 of the noise and vibration impact assessment (Appendix D).</p>                                                                                                                                                                                                                                                                                                                                     | APA / Contractor | Construction |
| NV-8                   | <p>Where compliance with the road traffic noise criteria in the RNP is unable to be achieved, reasonable and feasible noise mitigation and management measures will be included in the construction noise and vibration management plan, including:</p> <ul style="list-style-type: none"> <li>– reducing heavy vehicle speeds on Uranquinty Cross Road</li> <li>– managing driver behaviour via inductions, toolbox talks and minimise the use of engine compression brakes</li> <li>– minimising peak hour heavy vehicle movements on local roads where practicable</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | APA / Contractor | Construction |

| ID                                                                     | Mitigation measure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Responsibility | Timing    |
|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------|
| <b>Equipment selection and detailed design</b>                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                |           |
| NV-9                                                                   | <p>The sound power levels of the operational equipment should be equal or lower than those presented in Table 2.21 of the noise and vibration impact assessment (Appendix D).</p> <p>Should one-third octave band noise data for plant and equipment become available during further detailed design of the site, this should be incorporated into the noise model to assess the potential for tonal or low frequency noise characteristics. This would identify potential mitigation requirements to ensure compliance with the PNTLs.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | APA            | Operation |
| <b>Operational noise validation assessment</b>                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                |           |
| NV-10                                                                  | <p>Within 12 months of commissioning of the proposed modification, a noise validation assessment would be undertaken and include, but not be limited to:</p> <ul style="list-style-type: none"> <li>– At-source measurements of the equipment to confirm overall and one-third octave band noise levels.</li> <li>– Noise monitoring at the most-affected receivers or an intermediate location to quantify noise levels from the proposed modification at distance and will be undertaken in accordance with the methodology outlined in Approved methods for the measurement and analysis of environmental noise in NSW (EPA, 2022).</li> <li>– Assessment of the measured operational noise levels against the PNTL of 35 dBA LAeq,15min and include an assessment for annoying characteristics as defined in Fact Sheet C of the NPfI.</li> <li>– Reporting of the findings to show if the site complies with the PNTLs and identify whether mitigation measures are required to reduce noise levels to comply with the PNTLs.</li> </ul> | APA            | Operation |
| NV-11                                                                  | <p>The operational noise validation assessment would be carried out by a suitably qualified noise specialist. Records of routine equipment calibration and testing would be maintained by the qualified noise specialist undertaking the assessment.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | APA            | Operation |
| <b>Operational noise management measures for operators and workers</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                |           |
| NV-12                                                                  | <ul style="list-style-type: none"> <li>– All equipment should be properly maintained in accordance with the manufacturer's specifications.</li> <li>– All equipment should be operated in the appropriate manner.</li> <li>– Where noisy maintenance is required, it should be scheduled to occur during periods when receivers are less sensitive, such as during the daytime.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | APA            | Operation |
| <b>Complaints handling protocol</b>                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                |           |
| NV-13                                                                  | <p>Complaints regarding situations where noise emission levels are perceived by residents to be a problem will be managed in accordance with the APA's community grievance, complaint and feedback guidelines and procedure.</p> <p>The complaints management process will include:</p> <ul style="list-style-type: none"> <li>– Receive and record details of the complaint.</li> <li>– Acknowledge receipt of complaint with complainant.</li> <li>– Screen the category and type of complaint.</li> <li>– Investigate complaint and inform complainant of investigation status.</li> <li>– Resolve/mitigate the complaint with appropriate corrective actions, within agreed timeframes.</li> <li>– A site manager will investigate to determine the possible source of the noise.</li> </ul>                                                                                                                                                                                                                                              | APA            | Operation |



| ID    | Mitigation measure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Responsibility | Timing    |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------|
|       | <ul style="list-style-type: none"> <li>– Should a problem noise source be identified, the method of operation is to be altered or controlled where reasonable and feasible.</li> <li>– If required, noise monitoring at the complainant's property will be undertaken if the complainant is not satisfied with the corrective action.</li> <li>– Any corrective action is to be recorded and reported to the site manager, who is to keep a record of all actions.</li> <li>– The site manager will be informed of any complaint and details must be recorded in a complaints register.</li> </ul> <p>The site manager will notify potentially affected receivers if observations indicate that the noise criteria is being exceeded due to activities carried out on site. The affected receivers will be notified of exceedances and the source of the impact in writing within 48 hours of detection and verification.</p> |                |           |
| NV-14 | <p>Where compliance noise monitoring is undertaken in response to complaints, the noise monitoring will be undertaken with the following considerations:</p> <ul style="list-style-type: none"> <li>– Monitoring would be carried out by a suitably qualified noise specialist. records of routine equipment and testing would be maintained by the qualified noise specialist undertaking the assessment.</li> <li>– Monitoring would be undertaken at the most critical time of day near the complainant and near the identified source of the impact.</li> <li>– The prevailing meteorological conditions during the monitoring will be noted.</li> <li>– A report will be prepared detailing the findings of the compliance noise monitoring in accordance with the requirements provided in the NPfI.</li> </ul>                                                                                                         | APA            | Operation |

## 6.2 Biodiversity

This section provides a summary of the BDAR prepared by GHD and includes recommended mitigation measures to reduce biodiversity impacts. A full copy of the report is provided in Appendix F.

### 6.2.1 Methodology

A BDAR was undertaken to assess the impacts on biodiversity as a result of the proposed modification. The assessment involved a desktop assessment for data collection and background research, field surveys and Biodiversity Assessment Method (BAM) credit calculations.

Key terms used for the BDAR assessment include:

- **Proposed site** – The area that would be directly affected by construction, decommissioning and rehabilitation and the location of operational infrastructure.
- **Study area** – is the area investigated as part of the BDAR which includes the proposed site footprint and surrounding area with the potential to be directly or indirectly affected by the proposed modification.
- **Assessment area** – is the area investigated in accordance with the BAM, encompassing the proposed site and study area plus the 1,500 m buffer area surrounding the study area, patch size polygon and surrounding land included in the assessment of site context.
- **Locality** – the area within a 10 km radius of the study area.

#### Desktop assessment

A desktop database review was undertaken to identify threatened flora and fauna species, populations and ecological communities (threatened biota) listed under the NSW *Biodiversity Conservation Act 2016* (BC Act) and

EPBC Act, that could be expected to occur in the locality, based on previous records, known distribution ranges, and habitats present. These were also used to obtain the necessary site data to perform BAM calculations.

The BDAR used the following information sources:

- The NSW *State Vegetation Type Map* (DPE, 2023a)
- NSW *BioNet Vegetation Classification* (NSW DCCEEW, 2024a)
- NSW *BioNet Atlas* (NSW DCCEEW, 2024b)
- NSW DCCEEW threatened biodiversity profile search (NSW DCCEEW, 2024c)
- Threatened Biodiversity Data Collection profiles of threatened species listed under the BC Act (NSW DCCEEW, 2024d)
- DCCEEW EPBC Act Protected Matters Search Tool (Commonwealth DCCEEW, 2024a)
- EPBC Act Species profile and threats database (Commonwealth DCCEEW, 2024b)
- Register of Critical Habitat (Commonwealth DCCEEW, 2023b)
- The list of candidate species credit-type species and predicted species identified by the BAM calculator (BAM-C)
- Department of Primary Industries (DPI) freshwater threatened species distribution maps (DPI, 2023).

As part of the desktop assessment, background research was conducted which included analysis of the following information sources.

- NSW (Mitchell) Landscapes mapping Version 3.1 (DPIE 2016) and Descriptions for NSW (Mitchell) Landscapes Version 2 (DECC, 2002).
- Interim Biogeographic Regionalisation of Australia (IBRA version 7.0) mapping (DCCEEW, 2023a).
- Initial BAM calculations.
- *Atlas of Groundwater Dependent Ecosystems* (BOM, 2024a).
- Aerial photograph imagery of the study area.

The study area for the BDAR, shown in Figure 6.2, includes the proposed site and the surrounding vegetated area with the potential to be directly or indirectly impacted by the proposed modification. A detailed description of the methodology is provided in Section 2 of the BDAR (refer to Appendix F).

## Field surveys

Site surveys were conducted by two GHD ecologists as included in Table 6.10. Due to the small area of the proposed site, staged surveys of the study area were not necessary. Site surveys were conducted in accordance with the BAM and with reference to appropriate threatened species survey guidelines for targeted species. Site surveys included:

- Site stratification and vegetation mapping.
- Sampling of vegetation integrity plot/transects.
- Habitat assessments.
- Targeted surveys for threatened flora using parallel flora transects.
- Incidental observations of threatened fauna.

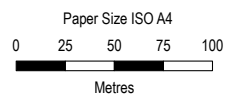
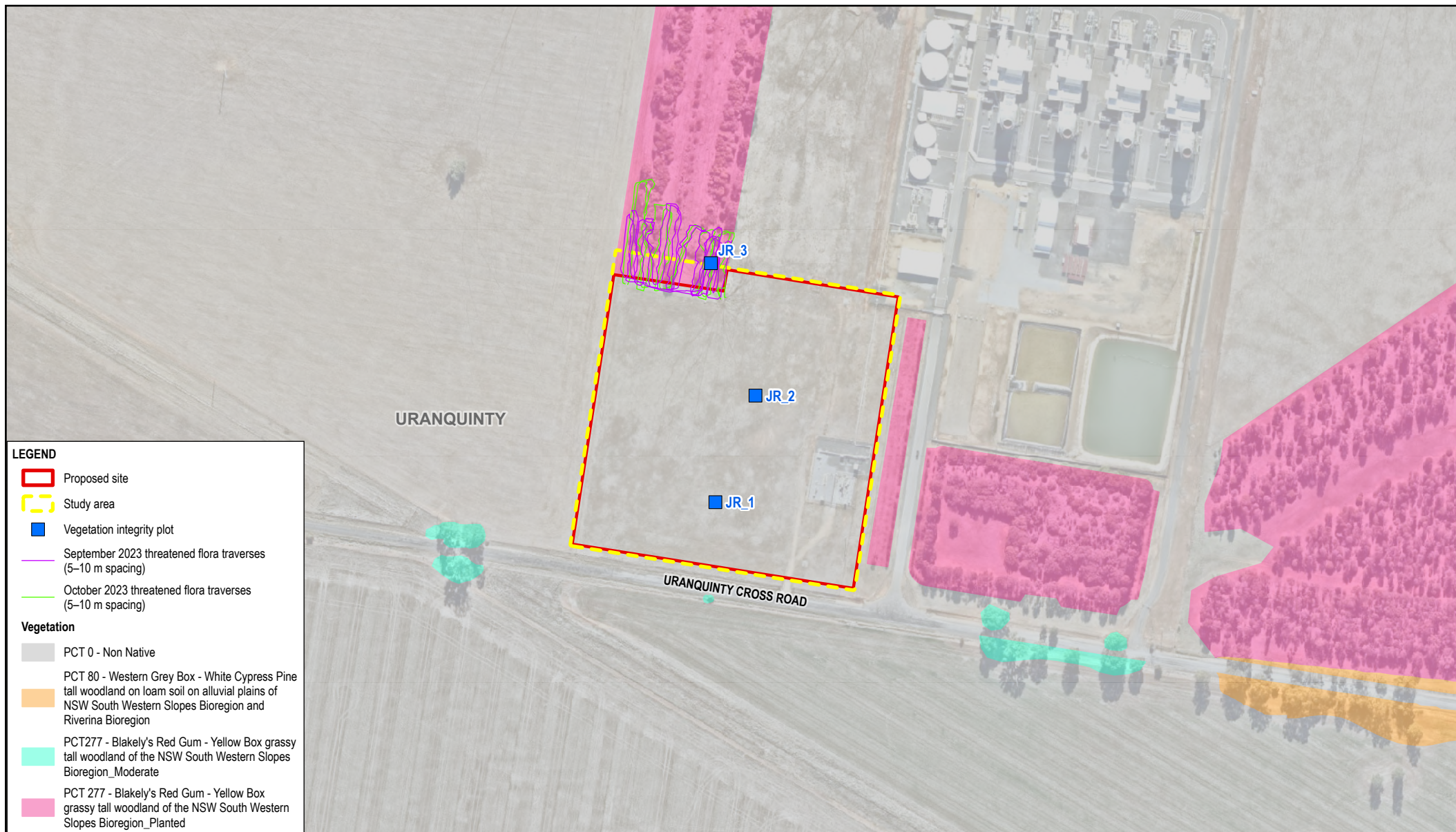
The scope and timing of the surveys are outlined in Table 6.10 below.

**Table 6.10**      *Survey techniques and timing*

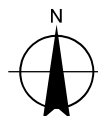
| Survey stage                                                                         | Date           | Survey Technique                                                                                                                                                               |
|--------------------------------------------------------------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Preliminary investigation of biodiversity values and Vegetation integrity assessment | 22 August 2023 | <ul style="list-style-type: none"> <li>– Vegetation zone mapping</li> <li>– Vegetation integrity plots</li> <li>– Habitat assessment</li> <li>– Diurnal bird survey</li> </ul> |

| Survey stage                                                 | Date                                 | Survey Technique                                                                                           |
|--------------------------------------------------------------|--------------------------------------|------------------------------------------------------------------------------------------------------------|
| Spring targeted species credit surveys for SAI entities only | 18 September 2023<br>16 October 2023 | <ul style="list-style-type: none"> <li>– Threatened flora search</li> <li>– Diurnal bird survey</li> </ul> |

An overview of the flora surveys is presented on Figure 6.2 and an overview of the fauna surveys is presented on Figure 6.3.



Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



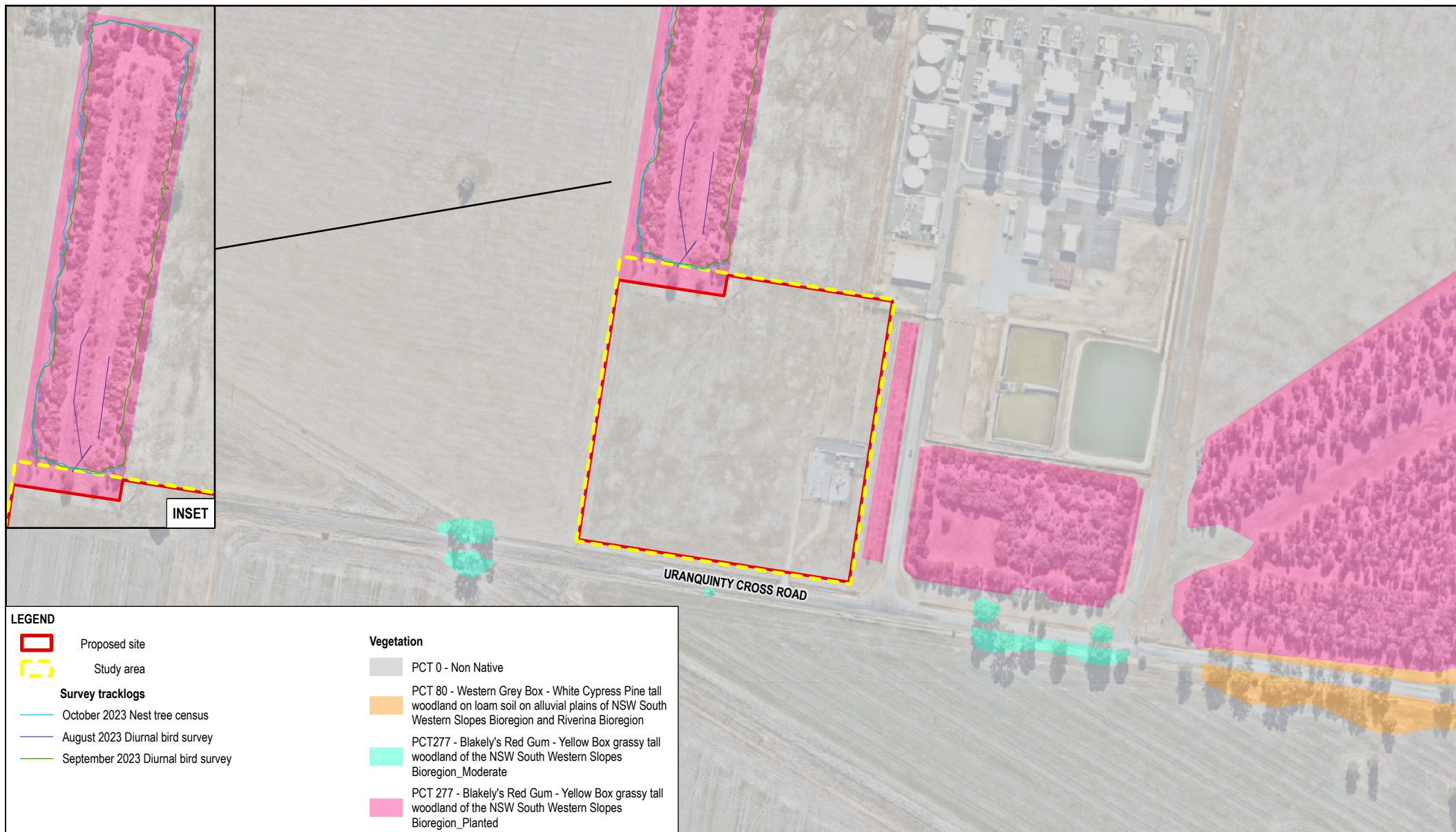
East Australian Pipeline Pty Ltd  
Culcairn to Wagga Wagga Gas Pipeline –  
MOD 1 Uranquinty Compressor Station  
Modification Report

Project No. 12614690  
Revision No. 0  
Date 25/07/2025

Flora survey effort

**FIGURE 6.2**



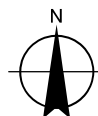


Paper Size ISO A4

0 25 50 75 100

Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



**East Australian Pipeline Pty Ltd**  
**Culcairn to Wagga Wagga Gas Pipeline –**  
**MOD 1 Uranquinty Compressor Station**  
**Modification Report**

Project No. **12614690**  
Revision No. **0**  
Date **25/07/2025**

**Fauna survey effort**

**FIGURE 6.3**



## 6.2.2 Existing environment

### General ecological context

The study area and surrounding landscape have been historically cleared and are in a degraded condition due to the construction and operation of the existing Uranquinty Power Station, road use, and agricultural activities. The majority of the proposed site contains patchy, species-poor non-native ground cover vegetation. Planted native vegetation is present in the north-west corner of the proposed site which extends further north. The character of vegetation present on site can be seen below in Figure 6.4.

There are no waterways or waterbodies present within or adjacent to the proposed site. The closest waterway is Sandy Creek, located approximately 1.9 km north east from the proposed site (refer to Figure 1.2).



*Figure 6.4 View of proposed site from southern boundary with the Origin Uranquinty Power Station in distance*

### Flora

#### Native vegetation

Approximately 97 percent of the study area comprises large areas of cleared and degraded land that supports agriculture. No trees or threatened flora species were identified within the proposed site during the ecology surveys.

Native vegetation is only associated with the planted native vegetation which intersects the north-western corner of the study area and does not occur in the proposed project site footprint. This vegetation is in moderate condition and extends north for approximately 373 m, where it then connects to a narrow strip of remnant native vegetation which continues north along boundary fence lines for approximately 827 m. Native vegetation to the south and west is very minimal and is surrounded by cropped pastures and roads, providing very limited habitat connectivity.

Planted native vegetation also occurs to the east outside of the study area, however connectivity is hindered by roads and infrastructure associated with the existing power station (refer to Figure 6.2).

### **Plant community types**

One plant community type (PCT) was identified within the study area, Blakely's Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion (PCT 277). PCT 277 is present within the north west corner of the study area and extends further north in the wider surrounding area. While this PCT is present within the proposed site, the UCS design avoids all vegetation and no impacts to the PCT are anticipated.

One PCT was identified more than 250 m from the proposed site in the wider area, Western Grey Box – White Cypress Pine tall woodland on loam soil on alluvial plains of NSW South Western Slopes Bioregion and Riverina Bioregion (PCT 80).

PCT 277 is listed as Critically Endangered under the BC Act. The BDAR assessment found the PCT did not meet the condition thresholds for the EPBC Act listed threatened ecological community (Commonwealth DCCEEW 2023c).

Mapped vegetation communities within and surrounding the proposed site are presented on Figure 6.2.

### **Fauna**

The fauna surveys undertaken and fauna species recorded during the surveys are presented on Figure 6.3.

#### **Fauna habitat**

The proposed site provides limited foraging and short-term roosting habitat for mobile fauna species such as woodland birds, owls, raptors and bats. The proposed site may be used by fauna travelling over or used occasionally as foraging habitat. The areas of non-native grassland in the proposed site and study area provides no shelter, roosting or breeding habitat for species that could potentially occur and have negligible value for these species.

Planted vegetation present in the north-west corner of the site may be used occasionally for foraging or shelter when fauna is passing through.

The study area does not contain any habitat features which comprise of an important connecting link between any other areas of habitat within the surrounding landscape. Non-native vegetation removed for construction of the UCS would not result in any impacts to habitat connectivity or substantially fragment any areas of native vegetation that threatened fauna species would rely upon.

#### **Threatened fauna**

No EPBC Act or BC Act listed threatened fauna species were identified during the ecology surveys.

The proposed site was assessed as having limited habitat resources for fauna species and does not contain any known or potential nest or roost sites or any other habitat resources that would be important to the ecology of any threatened species.

Fauna species would not occur at the study area on a long-term basis or rely on any of the habitat resources at the study area for their persistence in the local area. They are only likely to pass over or through the study area on a transient basis (if at all) while relying on better quality habitat resources in the surrounding area.

### **Matters of National Environmental Significance**

#### **Threatened ecological communities and species**

No threatened ecological communities listed under the EPBC Act were recorded in the study area or proposed site. No threatened species listed under the EPBC Act were recorded within the study area or proposed site. Based on the results of the site surveys and habitat assessments, all threatened species have been assessed to have low or no potential to occur given lack of suitable habitat and/or because the study area is outside of the known geographic range of the species.

## Migratory species

No migratory terrestrial or bird shore species listed under the EPBC Act were recorded during field surveys. Based on the results of the site surveys and habitat assessments, all migratory bird and terrestrial species have been assessed to have low or no potential to occur given lack of suitable habitat and/or because the study area is outside of the known geographic range of the species.

## 6.2.3 Potential impacts

### Direct impacts

As the proposed site layout was reduced to an area that contains only non-native vegetation at the proposed site, formal assessment of residual direct impacts and calculation of biodiversity credits is not required as part of the streamlined BDAR.

The proposed modification would remove or modify a maximum of 1.21 ha of non-native grassland, comprising 27 percent of the maximum possible area of non-native grassland that could be affected by the proposed modification within the study area. The removal of this non-native vegetation would remove negligible habitat resources for native fauna species, including leaf litter and foraging resources. No trees or shrubs would be removed or otherwise directly affected at the proposed site. The proposed modification would remove a small proportion of the resources available in the local area, particularly in the context of the areas of better condition planted and remnant native vegetation in the study area, but outside the proposed site along Uranquinty Cross Road.

### Indirect impacts

Table 6.11 documents the potential residual indirect impacts that could arise from the construction and operation of the proposed modification.

Table 6.11 Summary of potential residual indirect impacts

| Indirect impact                                       | Likelihood and potential consequences                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Edge effects                                          | <p>'Edge effects' can include increased noise and light or erosion and sedimentation at the interface of intact vegetation and cleared areas. Edge effects may result in impacts such as changes to vegetation type and structure, increased growth of exotic plants, increased predation of native fauna or avoidance of habitat by native fauna. Altered environmental conditions along new edges can allow invasion by pest animals specialising in edge habitats and/or change the behaviour of resident animals. Edge zones can be subject to higher levels of predation by introduced mammalian predators and native avian predators.</p> <p>The proposed site contains only non-native grassland. Vegetation within the study area and surrounding landscape is also predominantly non-native. Only one patch of planted native vegetation occurs adjacent to the proposed site. The construction and operation of the proposal may result in edge effects to the nearby planted vegetation and retained habitat features.</p>                                                                                                                                                                                                                                                                                                                                   |
| Introduction and spread of weeds, pests and pathogens | <p>Disturbance associated with vegetation clearing and vehicle traffic during construction may, in general, increase the potential for the spread, introduction and establishment of weed and pest species, and diseases and pathogens.</p> <p>Construction and environmental management plans will specify measures for restricting access to native vegetation and minimising the risk of transmitting weed propagules.</p> <p>The proposed site is predominantly surrounded by non-native vegetation. There is a negligible risk of transmitting disease into any sensitive environments. Disturbance to the planted native vegetation adjoining the study area would be mitigated through environmental inductions and exclusion fencing or other visible barriers to entry to exclude personnel and vehicles from native vegetation outside the study area.</p> <p>To further mitigate the risk of pathogens being brought onto and/or spread through the site all vehicles, plant and equipment will be cleaned down (wash/blow down) and certified weed free prior to initial entry to site; all vehicles, plant and equipment will strictly adhere to the approved roads, tracks, easements and work areas to minimise contact with vegetation (DPIE 2020). All construction activities will adhere to the requirements of the <i>Biosecurity Act 2015</i>.</p> |

| Indirect impact                  | Likelihood and potential consequences                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Noise and light impacts on fauna | <p>Noise levels during the construction period would result in an increase above existing background levels for the duration of construction. Noise levels would vary during the construction period, with some activities being louder and producing higher levels of vibration than others, although all construction noise and vibration will adhere to the <i>Interim Construction Noise Guideline</i> (NSW EPA, 2017). Noise, vibration, and light have been shown to have a variety of impacts on fauna, including changing foraging behaviour, impacting breeding success and changing species occurrences.</p> <p>The study area is predominately surrounded by non-native vegetation in a heavily cleared agricultural landscape. The existing Uranquinty Power Station is also located adjacent to the proposed site. The power station is only operational at intermittent time periods when there is greater demand for energy. Any native fauna at or near the proposed site are likely to be habituated to the noise of human activity.</p> <p>Lighting for night construction works has the potential to result in light spill into adjoining areas of native vegetation which may disturb resident fauna. Light generated during construction will be managed in general accordance with the requirements in Australian Standard AS 4282-1997 Control of the Obtrusive Effects of Outdoor Lighting. Directional lighting will be used to minimise the effects of light spill outside the proposed site as far as possible.</p> <p>The proposed compressor station would operate 24 hours per day, seven days a week, and would be controlled remotely with no on-site staff required for day-to-day operation. A noise and vibration assessment has been undertaken in support of the proposed modification which outlines mitigation measures to minimise noise impacts, including a noise validation assessment during operations (Appendix D).</p> <p>Given the limited habitat available in the proposed site and study area, and the availability of alternate habitat in surrounding areas, it is unlikely the temporary increase in noise and light during construction and noise increase during operation would significantly affect fauna populations that occur in adjoining vegetation.</p> |
| Erosion and sedimentation        | <p>Removal of vegetation, soil disturbance and excavation, and construction of the UCS infrastructure would expose subsoil and generate spoil material and could, in general, result in erosion and sedimentation. The proposed modification would be undertaken in accordance with a CEMP that would include a Soil and Water Management Plan and would include industry best practice methods for excavating, handling and storing soils.</p> <p>Noting the gentle topography at the study area, relatively small proposed clearing areas, construction impacts based on the indicative proposed site layout are expected to be limited and are likely to be sufficiently mitigated by the construction methodology.</p> <p>Given the limited scale of works and the proposed environmental management measures the proposed modification is highly unlikely to result in a tangible increase in the degree of erosion or sedimentation.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## Prescribed Impacts

The BDAR includes a detailed assessment of prescribed impacts required by the BAM. Prescribed impacts are the impacts on biodiversity values which are not related to, or are in addition to, native vegetation clearing and habitat loss, discussed above. In general, these types of impacts affect habitat or features of the environment that are irreplaceable or otherwise important to the maintenance of biodiversity values.

The BDAR has identified and assessed four prescribed impacts relevant to the proposed modification included in Table 6.12 in accordance with the Biodiversity Conservation Regulation 2017.

Table 6.12 Summary of residual prescribed impacts on the proposed site

| Prescribed impact     | Likelihood and consequences                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Human made structures | <p><b>Nature</b></p> <p>The wider study area contains existing human-made structures associated with the Uranquinty Power Station. These structures are solely comprised of metal materials and do not provide roosting habitat for threatened microbats.</p> <p><b>Extent</b></p> <p>The proposed modification would not remove existing human-made structures.</p> <p><b>Duration</b></p> <p>Not calculated. Likely to be equivalent to pre-construction levels.</p> <p><b>Consequences</b></p> <p>Nil. The proposed modification would not remove existing human-made structures in the proposed site.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Non-native vegetation | <p><b>Nature</b></p> <p>The proposed site contains only non-native vegetation. Use of the site for the construction of the UCS would involve the removal of non-native grassland and an increase in the area of hard stand and human made structures. This non-native vegetation provides limited habitat resources for any threatened species with potential to occur in the locality.</p> <p><b>Extent</b></p> <p>There is 4.44 ha of non-native grassland within the study area and proposed site</p> <p><b>Duration</b></p> <p>This impact will last for 25 years during the construction and operational phase of the proposed modification. Upon decommissioning the proposed site would be completely rehabilitated.</p> <p><b>Consequences</b></p> <p>The proposed site may be travelled over or through or used occasionally as foraging habitat by threatened microbats, threatened woodland or raptor birds. The areas of non-native grassland in the proposed site and study area provides no shelter, roosting or breeding habitat for the species that could potentially occur and have negligible value for these species. The consequences of removal or modification of this non-native vegetation on threatened species that may occur in the local area would be negligible.</p> |
| Vehicle strike        | <p><b>Likelihood</b></p> <p>The traffic assessment (refer to Section 6.5) concluded that the proposed modification is expected to have minimal impact on the roads within the vicinity of the proposed site, during peak hours of operation. Vehicle movement would increase above current levels but in the context of existing traffic and limited habitat within the proposed site there is unlikely to be a tangible increase in risk to fauna. Vehicle movement within the proposed site itself would increase but given the short distances, low speeds, and negligible habitat value there would be a negligible increase in the risk of vehicle strike.</p> <p><b>Estimated rate of vehicle strike</b></p> <p>Not calculated. Likely to be equivalent to pre-construction levels.</p> <p><b>Consequences</b></p> <p>Likely to be equivalent to pre-construction levels. Given the context of the surrounding study area, few if any native fauna would be at particular risk from vehicle strike and as such the consequences are likely to be negligible.</p>                                                                                                                                                                                                                              |
| Habitat connectivity  | <p><b>Nature</b></p> <p>Planted native vegetation in the north-western corner of the study area provides minor contribution to habitat connectivity within the surrounding locality. The planted vegetation continues north for about 346 m, where it then connects to a narrow strip of remanent woodland which terminates after about 812 m. No further connecting links between patches of native vegetation continue beyond this. All remaining adjacent areas comprise cleared agricultural land, fences, roads and the existing Uranquinty Power Station, creating a barrier to less mobile fauna.</p> <p><b>Extent</b></p> <p>The proposed modification would not involve clearing of the planted native vegetation.</p> <p><b>Duration</b></p> <p>Not calculated. Would be equivalent to pre-construction levels.</p> <p><b>Consequences</b></p> <p>Nil. All areas of planted vegetation within the study area would be retained.</p>                                                                                                                                                                                                                                                                                                                                                       |



## 6.2.4 Mitigation measures

The proposed mitigation measures to reduce impacts to biodiversity are provided in Table 6.13.

**Table 6.13**      *Mitigation measures - Biodiversity*

| ID    | Environmental safeguard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Responsibility           | Timing                           |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|----------------------------------|
| BI-01 | Flora and fauna management controls will be included within the CEMP. It would include measures, processes, and responsibilities to minimise the potential for biodiversity impacts during construction and operation of the UCS. Including measures provided in Table 9.5 of Appendix F.                                                                                                                                                                                                                                                                                                                                                                                         | APA/Contractor Ecologist | Pre-construction                 |
| BI-02 | All workers will be provided with an environmental induction prior to starting work on site. This would include information on the biodiversity values of the site, protection measures to be implemented to protect native biota and penalties for breaches.                                                                                                                                                                                                                                                                                                                                                                                                                     | APA/Contractor Ecologist | Construction                     |
| BI-04 | Plans will be prepared showing areas to be cleared and areas to be protected, including exclusion zones and protected habitat features in the vicinity of work areas.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | APA/Contractor Ecologist | Pre-construction                 |
| BI-05 | Prior to the commencement of any work in or adjoining areas of native vegetation, including planted native vegetation, a survey will be carried out to mark the construction impact boundary. The perimeter of this area will be fenced using high visibility fencing and clearly marked as the limits of clearing. All vegetation outside this fence line will be clearly delineated as an exclusion zone to avoid unnecessary vegetation and habitat removal and the transmission of weeds or disease. Fencing and signage will be maintained for the duration of the construction period. Fencing will be designed to allow fauna to exit the site during clearing activities. | APA/Contractor Ecologist | Pre-construction<br>Construction |
| BI-06 | An unexpected finds protocol will be included in the CEMP to manage threatened flora and fauna not previously recorded on site are detected during clearing or construction activities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Ecologist                | Construction                     |
| BI-07 | Protocols for the management of fauna and habitats will be included in the CEMP. These will include (if required): <ul style="list-style-type: none"> <li>– salvage of woody debris where practicable</li> <li>– management of any trenches or excavation sites to prevent fauna from becoming trapped or injured.</li> </ul>                                                                                                                                                                                                                                                                                                                                                     | APA/Contractor Ecologist | Construction                     |
| BI-08 | All machinery entering the site will be appropriately washed down and disinfected prior to work on site to prevent the potential spread of weeds and disease. Protocols to prevent introduction or spread of chytrid fungus will be implemented following the <i>NSW hygiene guidelines</i> (DPIE 2020).                                                                                                                                                                                                                                                                                                                                                                          | APA/Contractor Ecologist | Construction                     |
| BI-09 | Declared priority weeds will be managed according to requirements of the <i>NSW Biosecurity Act 2015</i> . Soil material and stripped groundcover vegetation with the potential to contain priority weeds will not be removed from the study area unless if the soil material is being transported to a suitably licensed waste facility. Soil disturbance would be avoided as much as possible to minimise the potential for spreading weeds.                                                                                                                                                                                                                                    | APA/Contractor Ecologist | Construction                     |

| ID    | Environmental safeguard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Responsibility           | Timing                        |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------|
| BI-10 | Erosion and sediment control measures will be established prior to construction in accordance with the principles and guidelines included in <i>Managing Urban Stormwater: Soils and Construction – Volume 1</i> (Landcom, 2004).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | APA/Contractor Ecologist | Pre-construction Construction |
| BI-11 | Erosion and sediment controls throughout the site will be inspected regularly and maintained to ensure they are operating effectively.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Contractor               | Construction                  |
| BI-12 | Stockpiles of fill or vegetation will be placed within existing cleared areas (and not within areas of adjoining native vegetation).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Contractor               | Construction                  |
| BI-13 | Appropriate speeds for all construction and contractor vehicles will be enforced to limit dust generation and minimise chances of fauna mortality through vehicle strike throughout the construction and during operational use of the compressor station.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | APA/Contractor           | Construction Operation        |
| BI-14 | Light generated during construction will be managed in general accordance with the requirements in AS 4282-1997 Control of the Obtrusive Effects of Outdoor Lighting.<br>Directional lighting will be used to minimise the effects of light spill outside the compressor station as far as possible.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | APA/Contractor           | Construction Operation        |
| BI-15 | Activities on site will be undertaken as per the approved CEMP and only during the proposed construction hours. The proposed modification construction hours are:<br><ul style="list-style-type: none"> <li>Monday to Friday: 7am to 6pm</li> <li>Saturday: 7am to 6pm</li> <li>Sunday and/or Public Holidays: 7am to 6pm</li> </ul> The following activities may be undertaken outside the proposed modification construction hours:<br><ul style="list-style-type: none"> <li>The delivery of materials as requested by the NSW Police Force or other authorities for safety reasons; emergency work to avoid the loss of life or damage to property, or to prevent environmental harm.</li> <li>Emergency work to avoid the loss of life, property and/or material harm to the environment.</li> <li>Works as approved through the out-of-hours works protocol as approved through the CEMP.</li> </ul> Additional, specific controls will be included within the CEMP and will consider the project specific management measures outlined in the noise and vibration impact assessment (Appendix D). | APA/Contractor           | Construction Operation        |
| BI-16 | Specific measures will be incorporated into the CEMP to minimise the potential for chemical spills and associated impacts on natural environments adjacent to and downstream of the areas of impact.<br>Spill kits will be made available to construction vehicles. A management protocol for accidental spills will be put in place. Chemicals will be stored in bunded areas.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | APA/Contractor           | Construction Operation        |
| BI-17 | The site will be fully rehabilitated following decommissioning of the UCS at the end of project life. A rehabilitation strategy will be prepared to guide rehabilitation planning, implementation, monitoring and maintenance of the disturbed areas.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | APA/Contractor           | Decommissioning               |

## 6.3 Bushfire

This section provides a summary of the bushfire impact assessment prepared by GHD. A full copy of the report is provided in Appendix E.

### 6.3.1 Methodology

A Bushfire Assessment was prepared for the proposed modification. The Bushfire Assessment included a review of the existing environment and proposed modification aspects that may increase the risk of bushfire. The Bushfire Assessment was informed by the following guidelines:

- National Construction Code
- *Planning for Bushfire Protection* (NSW RFS, 2019)
- *Australian Standard 3959:2018 Construction of buildings in bushfire prone areas* (AS 3959:2018)
- National Association of Steel-framed Housing standard.

The Bushfire Assessment included:

- identification of existing bushfire risks related to the environment of the proposed site
- review of the potential bushfire risks related to the proposed structures
- review of the proposed modification in relation to the *Planning for Bushfire Protection* (NSW RFS, 2019) performance criteria
- recommendations to comply with the performance criteria.

### 6.3.2 Existing environment

#### Bushfire prone land classification

The proposed site and surrounding area (1.5 km surrounding in all directions) are classified as Vegetation Category 3 land (NSW Government, 2025).

#### Fire weather

Fire weather can be represented as a Fire Danger Index, which is a measure of the potential speed and severity of a potential bushfire in a given area. The site falls within the Wagga Wagga LGA in the Eastern Riverina weather district for which the Fire Danger Index of 80 is applicable for bushfire assessment (NSW RFS, 2019).

#### Vegetation

Vegetation formations within 140 m of each direction (north, east, south and west) have been noted as per *Planning for Bushfire Protection* (NSW RFS, 2019). The vegetation at the proposed site was found to be:

- The area north and east was found to be predominantly grassland
- The areas to the south were found to contain existing verges/drains and agricultural land
- The area to the west was found to contain agricultural land.

#### Effective slope

The terrain within and around the proposed site is flat. The near-level cropland-dominated local terrain would have negligible influence on fire behaviour.

#### Bushfire attack level assessment

The proposed modification involves the construction of buildings/structures of the following National Construction Code classifications:

- UCS is classifiable as Class 8 buildings or structures.
- The temporary and permanent office facilities/amenities are classifiable as Class 5 buildings.

The National Construction Code does not provide for any bushfire-specific performance requirements for Class 5 and 8 building classes. However, requirements of the AS 3959:2018 and National Association of Steel-framed Housing standards were applied to the assessment to meet the Planning for Bush Fire Protection requirements. *Planning for Bushfire Protection 2019* (NSW RFS, 2019) contains objectives specific to Class 5 to 8 buildings, being:

- To provide safe access to/from the public road system for firefighters providing property protection during a bushfire and for occupant egress for evacuation.
- To provide suitable emergency and evacuation (and relocation) arrangements for occupants of the development.
- To provide adequate services of water for the protection of buildings during and after the passage of a bushfire, and to locate gas and electricity services so as not to contribute to the risk of fire to a building, and
- Provide for the storage of hazardous materials away from the bushfire hazard wherever possible.

The current proposed site plans provide a preliminary location for construction support facilities, with final location to be confirmed during detailed design. The construction and operation of support facilities were assessed on whether the planned siting of construction and operation facilities can achieve compliance with *Planning for Bushfire Protection 2019* (NSW RFS, 2019) during the detailed design stage. This included recommending minimum setback distances for construction and operational support facilities from bushfire hazards at the site to achieve compliance for Asset Protection Zone (APZ) dimensions.

The Bushfire Attack Level (BAL) assessed for each proposed building is provided in Table 6.14. The full results are provided in Appendix E.

**Table 6.14** Determination of BALs for proposed buildings

| Buildings                                                                            | Distance from buildings to bushfire prone vegetation                                                                                                                                                               | Likely worst-case BAL for proposed buildings                                                                                                                        |
|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UCS                                                                                  | >36 m                                                                                                                                                                                                              | <b>BAL for construction not applicable.</b><br>Proposed separation from classifiable vegetation will achieve BAL 10.                                                |
| Temporary/portable project construction site offices and amenity buildings           | >36 m separation from bushfire hazard and offices/worker amenity facilities can be achieved                                                                                                                        | <b>BAL for construction not applicable.</b><br>Building setback from adjacent grass/cereal cropping land exceeding 36 metres would achieve BAL 10.                  |
| Permanent office facilities/workshop/amenities buildings (for the operational phase) | >36 m separation from bushfire hazard and offices/worker amenity facilities can be achieved                                                                                                                        | <b>BAL for construction: BAL 12.5</b><br>Permanent occupiable building setback from adjacent grass/cereal cropping land exceeding 20 metres would achieve BAL 12.5. |
| Hazardous materials storage areas (including diesel storage tank and generator)      | Separation between bushfire hazard and diesel storage tank and generator >36 metres can be achieved.<br>Separation between the diesel storage tank/generator location and office facilities will also be required. | <b>BAL for construction not applicable.</b><br>Building setback from adjacent grass/cereal cropping land exceeding 36 metres would achieve BAL 10.                  |

### 6.3.3 Potential impacts

#### Compliance with planning for bushfire protection

An assessment of compliance in accordance with *Planning for Bushfire Protection 2019* (NSW RFS, 2019) was undertaken for the proposed modification. A summary of the assessment is provided below in Table 6.15.

Table 6.15 Performance criteria and acceptable solutions

| Objective                   | Potential bushfire impact                                                                                                                | Performance criteria/mitigation                                                                                                                                                                                                                 | Compliance notes                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Emergency management</b> | Lack of planning leading to insufficient evacuation procedures in event of bushfire.                                                     | Development of a Bush Fire Emergency and Evacuation management plan.                                                                                                                                                                            | <b>Can comply</b><br>A Bush Fire Emergency and Evacuation Management Plan can be prepared.                                                                                                                                                                                                                                                                                                                               |
| <b>APZ</b>                  | Decreased bushfire protection to site and proposed structures if no APZ implemented.                                                     | A minimum 10 m wide APZ around the compressor station structures.<br>A minimum 20 metre wide APZ around the office buildings to achieve a maximum radiant heat exposure at the office buildings of BAL 12.5.                                    | <b>Can comply</b><br><u>Temporary project office and amenities buildings during construction:</u> Minimum 36 metre APZ all around.<br><u>Permanent operations office and amenities buildings and workshop:</u> Minimum 20 metres APZ all around (for BAL 12.5)<br><u>Diesel tank and generator:</u> Minimum 36 metre APZ all around. Diesel tank should also be separated from office building location by at least 25m. |
| <b>Access</b>               | No, or insufficient, access provided for firefighting vehicles.                                                                          | Firefighting vehicles are provided with safe all-weather access to structures and hazard vegetation.<br>The capacity of access roads is adequate for firefighting vehicles.<br>There is appropriate access to water supply.                     | <b>Can comply</b><br>The proposed facilities directly front Uranquinty Cross Road which provides appropriate access to the proposed site entrance.                                                                                                                                                                                                                                                                       |
| <b>Water and services</b>   | No, or insufficient, water supply in event of bushfire incident.<br>Inappropriate location of services, causing increased bushfire risk. | An adequate water supply for firefighting purposes is provided, accessible and reliable for firefighting purposes, compliant to AS 2419.1:2019<br>All electrical power supply services to be underground (supplied by existing overhead mains). | <b>Can comply</b><br>Power generation needs are provided on site by diesel generators.<br>Water supply for firefighting to be provided either by reticulated supply system, or alternatively by dedicated on site firefighting water supply tank (20,000 L capacity).                                                                                                                                                    |

## 6.3.4 Mitigation measures

The proposed mitigation measures (recommendations for compliance with performance criteria) to reduce impacts to bushfire are provided in Table 6.16.

Table 6.16 Mitigation measures – Bushfire

| ID    | Environmental safeguard                                                                                                                                                                                                                                                                                                                                                                                                                      | Responsibility | Timing           |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------|
| BF-01 | A Bush Fire Emergency and Evacuation Management Plan must be prepared addressing site evacuation in response to bushfire alerts and/or local reporting of bushfire threats, as per the following: <ul style="list-style-type: none"> <li>– <i>A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan</i> (NSW RFS)</li> <li>– <i>Australian Standard AS 3745:2010 Planning for emergencies in facilities</i>.</li> </ul> | APA/Contractor | Pre-construction |
| BF-02 | For temporary portable site office/amenity facilities during construction: APZ extending not less than 36 m from the external perimeter of temporary accommodation buildings.                                                                                                                                                                                                                                                                | APA/Contractor | Detailed design  |



| ID    | Environmental safeguard                                                                                                                                                                                                                                                                                                                       | Responsibility | Timing                              |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------------------|
|       | For permanent operations office/amenities and workshop buildings: APZ extending not less than 20 m from the external perimeter of temporary accommodation buildings (constructed to BAL 12.5).<br>Permanent office and amenities buildings and workshop are all to be constructed to BAL 12.5.                                                |                |                                     |
| BF-03 | The vehicular access into the site from Uranquinty Cross Road to be designed and constructed in accordance with Appendix 3 of <i>Planning for Bushfire Protection 2019</i> (NSW RFS, 2019).                                                                                                                                                   | APA/Contractor | Detailed design                     |
| BF-04 | For water services, it is preferred that mains water supplied hydrant system compliant to AS 2419.1:2019 and alternatively a 20,000 L firefighting water supply tank to be provided on-site.<br>Any electrical services from the on-site power supply and any electrical services from the overhead mains supply point are to be underground. | APA/Contractor | Detailed design<br>Pre-construction |

## 6.4 Air quality

This section provides a summary of the air quality impact assessment prepared by GHD. A full copy of the report is provided in Appendix G.

This section also incorporates a greenhouse gas assessment prepared by GHD.

### 6.4.1 Methodology

The air quality impact assessment involved:

- identifying sensitive receivers with the potential to be adversely affected by air quality impacts
- a desktop review of existing air quality and meteorology, including data from the Bureau of Meteorology (BoM) weather stations, the Rural Air Quality Monitoring Network weather stations, the NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEE) Air Quality Monitoring Stations and the National Pollutant Inventory maintained by the Australian Department of Department of Climate Change, Energy, the Environment and Water (Cth DCCEE)
- establishing project-specific assessment criteria in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (NSW EPA, 2022).
- identifying and assessing potential construction dust impacts using a risk-based assessment approach in general accordance with guidance on the assessment of dust from demolition and construction (Institute of Air Quality Management (IAQM), 2024).
- reviewing emissions sources during construction and qualitatively assessing the potential for air quality impacts at sensitive receivers
- air emission modelling and assessing the potential for operational, cumulative and decommissioning air quality impacts
- identifying mitigation and management measures.

The desktop greenhouse gas assessment involved:

- identifying relevant aspects of energy use and greenhouse gas emissions from construction and operation across one category (described below)
- preparing activity estimates using the design and preliminary construction information for the proposed modification
- identifying appropriate energy content and emissions factors
- estimating the projected tonnes of carbon dioxide equivalent emissions for each activity and total greenhouse gas emissions attributable to the proposed modification.

## 6.4.2 Existing environment

### Background air quality

Regional air quality within the study area is mainly influenced by rural and agricultural activities and vehicle emissions.

A search of the National Pollutant Inventory database identified three facilities within 15 km of the proposed site. A summary of these facilities is provided in Table 6.17.

**Table 6.17** Industrial emissions nearby to the proposed site

| Facility                               | Distance and direction from site                                      | Compound (kg/year) | Year      |           |           |           |           |
|----------------------------------------|-----------------------------------------------------------------------|--------------------|-----------|-----------|-----------|-----------|-----------|
|                                        |                                                                       |                    | 2017-2018 | 2018-2019 | 2020-2021 | 2021-2022 | 2022-2023 |
| Origin Energy Uranquinty Power Pty Ltd | Directly adjacent on the northeastern boundary of the modification    | PM <sub>10</sub>   | 17,778    | 11,125    | 5,504     | 10,434    | 4,598     |
|                                        |                                                                       | PM <sub>2.5</sub>  | 18,437    | 11,538    | 5,708     | 10,821    | 4,769     |
|                                        |                                                                       | CO                 | 85,600    | 53,567    | 26,502    | 50,238    | 22,140    |
|                                        |                                                                       | NO <sub>x</sub>    | 283,137   | 177,184   | 87,660    | 166,173   | 73,233    |
|                                        |                                                                       | SO <sub>2</sub>    | 1,646     | 1,030     | 510       | 966       | 426       |
|                                        |                                                                       | VOCs               | 5,992     | 3,750     | 1,855     | 3,517     | 1,550     |
| Uranquinty Meter Station               | Directly adjacent to site on the eastern boundary of the modification | VOCs               | 3,136     | 3,750     | 1,855     | 3,007     | 1,550     |
| Hanson Construction Materials          | Located 12 km Northeast of site                                       | VOCs               | -         | -         | -         | 796       | 804       |

Data on ambient air quality data recorded at the Air Quality Monitoring Stations located at Wagga Wagga North approximately 16 km northeast of the proposed site was examined and compared to the assessment criteria in section 2.3 of Appendix G. The review noted that:

- Background particulate matter (PM) PM<sub>2.5</sub> and PM<sub>10</sub> frequently exceeded the criteria prior to 2021. This was likely due to the 2019-2020 Australian bushfire season, which was occurring in the surrounding region. NO<sub>2</sub> concentrations have not exceeded the criteria at any time.
- Annual average PM<sup>10</sup> and PM<sup>2.5</sup> concentrations reduced from 2019 – 2023.
- Ozone, NO<sup>2</sup> and NO annual averages were consistently low across the review period.

### Local meteorology

Climate data indicates that the region where the proposed site is located has a wide range of temperature fluctuations, with an average maximum of 32°C in January and an average minimum of 2.9°C in August. The mean temperature is approximately 29°C in January and 10°C in July. Rainfall data indicates the highest rainfall amounts are in November and March, with the most rainfall days occurring in June, July and August.

In spring and summer, winds blow primarily from the northeast. Calm conditions occur relatively infrequently in spring and summer months. Wind during autumn and winter months winds blow primarily from the northeast. Calm conditions occur relatively more frequently in autumn and winter months. The average wind speed is moderate at 3.7 m/s.

### Sensitive receivers

Air quality sensitive receivers are defined as locations where people live and work that could be sensitive to changes in air quality for reasons of human health or amenity. Some environmental features, such as ecologically sensitive areas, may also be considered sensitive to changes in air quality, particularly dust.

Twenty-six sensitive receivers were identified in the surrounding 2.8 km area of the proposed site. The closest residential dwellings are located about 880 m and 1.1 km south-east of the proposed site. There is also one

residential dwelling located about 1.2 km north-west of the proposed site. The Uranquinty Power Station site office is the closest receiver, located about 30 m north of the proposed site (refer to Figure 1.2). The majority of other receivers are residential, with a few industrial and primary production receivers also identified.

## 6.4.3 Potential impacts

### Construction

During construction, the primary risk to local air quality would be the generation of dust. Airborne particulate matter has the potential to cause adverse health, or nuisance impacts if not appropriately managed.

There are no residential sensitive receivers within 250 m of the proposed site. However, the Uranquinty Power Station site office is classified as a sensitive receiver under the IAQM and as such a risk screening assessment was undertaken for the Uranquinty Power Station site office. Additionally, the proposed site is bounded with undeveloped semi-arid rangeland, which is classed as an ecological receiver under the IAQM Guidance.

Construction activities assessed against the IAQM assessment included earthworks, UCS construction and track out (movement of site material onto public roads by vehicles). The dust emission magnitude for each construction activity is medium in accordance with the IAQM Guidance.

Based on IAQM Guidance, the sensitivity of the Uranquinty Power Station site office to potential health impacts and dust soiling was classified as medium while ecological receivers were classified as low. The results of the air quality assessment indicate that the unmitigated risk of dust soiling is classified as medium, while the risk to human health and ecological impacts are classified as low during all construction activities. The overall air quality risk associated with these construction activities is assessed as medium for all surrounding receivers.

With the implementation of mitigation measures outlined in Section 6.4.4, dust deposition, human health effects, and ecological impacts are anticipated to be low risk on nearby receivers.

### Operation

The assessment demonstrates the operation of the proposed modification is expected to comply with the relevant criteria at all sensitive receivers.

Cumulative emissions from the UCS and the Uranquinty Power Station were modelled using CALPUFF dispersion modelling software. Ground level concentrations were predicted at each receiver location for each identified pollutant. The modelling results indicate that the majority of emissions are below the modification-specific criteria. Cumulative PM<sub>2.5</sub> predictions were marginally above the criteria, due to the background concentration levels being above the criterion. Modelling using the background maximum 1-hour data demonstrated PM<sub>2.5</sub> predictions were within an acceptable range.

The UCS is an electric driven compressor which has minimal contributions cumulatively. The backup generator is the only major emitter of air pollutants for the UCS, which would only be used during emergency situations. The modelling undertaken conservatively included the backup generator for the cumulative assessment.

All predicted gas concentrations, including CO, SO<sub>2</sub> and NO<sub>2</sub>, are expected to comply with relevant criteria.

Full assessment results are included in Appendix G.

### Greenhouse gas emissions

During construction the main source of exhaust emissions would be the combustion of diesel fuel and petrol from heavy vehicles, mobile excavation machinery, and/or stationary combustion equipment. Exhaust emissions would involve periodically localised emissions of carbon monoxide, particulate matter (PM<sup>10</sup> and PM<sup>2.5</sup>), oxides of nitrogen, sulphur dioxide, volatile organic compounds, and polycyclic aromatic hydrocarbons associated with the combustion of diesel fuel and petrol. Minor vehicle exhaust emissions are expected during construction, however, would be intermittent and transient in nature and limited to construction. Any potential impacts are considered to be minor.

The significance of the greenhouse gas emissions attributed to the proposed modification was assessed by comparing 2023 greenhouse gas emissions accounts (i.e., the latest emissions inventory available, obtained from the UNFCCC emissions, DCCEEW) for NSW (111,639 kt CO<sub>2</sub>-e) and Australia (442,421 kt CO<sub>2</sub>-e). The

construction stage represents 0.003 per cent of the NSW emissions and 0.007 per cent of total Australian emissions. The operation stage represents 0.0063 per cent of the NSW emissions and 0.0016 per cent of total Australian emissions. The main source of exhaust emissions during construction and operation are outlined in Table 6.18.

**Table 6.18** Emissions source, emission totals and comparison to NSW and Australian emissions

| Stage                                                                    | Source                                          | Scope        | Emissions (t CO <sub>2</sub> -e) | % of NSW emissions | % of Australia emissions (2023) |
|--------------------------------------------------------------------------|-------------------------------------------------|--------------|----------------------------------|--------------------|---------------------------------|
| Construction                                                             | Heavy and light vehicle movements, diesel usage | Scope 1      | 1,216                            | 0.0011%            | 0.0003%                         |
|                                                                          | Plant equipment, diesel usage                   |              | 741                              | 0.0007%            | 0.0002%                         |
|                                                                          | Diesel used for electricity generation          |              | 962                              | 0.0009%            | 0.0002%                         |
|                                                                          | Vegetation removal, lost carbon sink            |              | 133                              | 0.0001%            | 0.0000%                         |
|                                                                          | Vegetation removal, fuel combustion             |              | 3                                | 0.0000%            | 0.0000%                         |
|                                                                          |                                                 | <b>Total</b> | 3,055                            | 0.0027%            | 0.0007%                         |
| Operation                                                                | Heavy and light vehicle movements, diesel usage | Scope 1      | 50                               | 0.0000%            | 0.0000%                         |
|                                                                          | Compressor blowdown and seal venting            |              | 1,706                            | 0.0015%            | 0.0004%                         |
|                                                                          | Electricity use from the grid                   | Scope 2      | 5,307                            | 0.0048%            | 0.0012%                         |
|                                                                          |                                                 | <b>Total</b> | 7,063                            | 0.0063%            | 0.0016%                         |
| <b>Operational emissions for the life of the modification (25 years)</b> |                                                 | <b>Total</b> | 75,807                           |                    |                                 |

## 6.4.4 Mitigation measures

The proposed mitigation measures to reduce impacts to air quality and greenhouse gas emissions are provided in Table 6.19.

**Table 6.19** Mitigation measures – Air quality and greenhouse gas emissions

| ID                              | Environmental safeguard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Responsibility | Timing                           |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------------|
| <b>Air quality</b>              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                |                                  |
| AQ-01                           | The CEMP will include measures to minimise the potential for impacts on air quality, particularly in relation to dust, and include mitigation measures in Table 5.1 of Appendix G.                                                                                                                                                                                                                                                                                                                                    | APA/Contractor | Pre-construction<br>Construction |
| AQ-02                           | Vehicles, plant and equipment used on site (including generators) will: <ul style="list-style-type: none"> <li>– comply with appropriate standards</li> <li>– not be used where they produce excessive emissions (based on a visual assessment) until service/maintenance can be undertaken to return them to normal working order</li> <li>– be turned off when not in use and not left to idle for prolonged periods</li> <li>– be regularly maintained in accordance with manufacturers specifications.</li> </ul> | APA/Contractor | All stages                       |
| AQ-03                           | Vehicular speeds onsite will be limited to <20 km/hr and vehicle movements will be restricted to designated access tracks to minimise dust lift-off from roads.                                                                                                                                                                                                                                                                                                                                                       | APA/Contractor | All stages                       |
| <b>Greenhouse gas emissions</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                |                                  |
| GG-01                           | Use of B10, renewable or biodiesel fuels for trucks and vehicles where economic and/or feasible.                                                                                                                                                                                                                                                                                                                                                                                                                      | APA/Contractor | All stages                       |

| ID    | Environmental safeguard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Responsibility | Timing     |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------|
| GG-02 | <ul style="list-style-type: none"> <li>– Implementation of efficiency in plant and equipment operations to reduce greenhouse gas emissions by:</li> <li>– Planning commute and efficient transportation of materials and people.</li> <li>– Material handling will be efficiently scheduled and planned to minimise fuel consumption.</li> <li>– Services and materials (aggregates etc.) will be sourced locally, where practicable.</li> <li>– Plant and equipment will be maintained in good condition to minimise ignition risk, fuel consumption, spills and air emissions that may cause nuisance.</li> <li>– Plant, equipment, and vehicle engines will be switched off when not in use.</li> </ul> | APA/Contractor | All stages |
| GG-03 | The frequency of compressor blowdowns will be planned and optimised.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | APA/Contractor | All stages |
| GG-04 | Leak detection and repair will occur as required to address fugitive emissions from the compressor and related infrastructure.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | APA/Contractor | All stages |

## 6.5 Traffic and transport

This section provides a summary of the traffic and transport impact assessment prepared by GHD. A full copy of the report is provided in Appendix H.

### 6.5.1 Methodology

The traffic and transport impact assessment was prepared general accordance with:

- *Guide to Traffic Management Part 3: Traffic Studies and Analysis Methods* (Austroads, 2020)
- *Guide to Road Design Part 3: Geometric Design* (Austroads, 2021a)
- *Guide to Road Design Part 4A: Unsignalised and Signalised Intersections* (Austroads, 2021b)

The traffic and transport impact assessment included:

- A desktop review to gain an understanding of existing conditions, traffic operations and any additional potential safety issues within the vicinity of the proposed site. The desktop review utilised publicly available information from the following sources:
  - aerial photography by Google Maps / NSW SIX Maps
  - road crash data published by Transport for NSW Centre for Road Safety.
- A traffic performance assessment based on the available traffic data and the expected peak generated traffic for the modification during the weekday am and pm peak periods.
- The traffic volume to be generated by the modification was determined based on information provided by APA.
- The anticipated traffic generation for the construction and operational stages of the modification was reviewed to identify the worst-case scenario assessment.
- A mid-block assessment was undertaken for assessing the road network operations between intersections based on hourly traffic volumes along a road and lane capacity limits. This involved identifying:
  - volume to capacity
  - demand
  - lane capacity.

Key terms used for the traffic and transport impact assessment include:



- Proposed site – the area that would be directly affected by construction and the location of operational infrastructure.
- Study area – the road network that extends eastward from the proposed site to the Olympic Highway and the township of Uranquinty. For crash data analysis, a 2.5-km radius has been used for the safety assessment.

## 6.5.2 Existing environment

### Road network

The following local and State (classified) roads are located in the vicinity of the proposed site:

- Olympic Highway: a state road which runs generally north–south in the rural area of the central western and south-eastern Riverina regions. It is a two-way, two-lane highway approximately seven metres wide with a posted speed limit of 50 km per hour near the Uranquinty town. Access to the proposed site would primarily be via Yarragundry Street and Uranquinty Cross Road from the Olympic Highway.
- Yarragundry Street: a local road that provides access to the local residential estates. It runs a south-north alignment, with its southern terminus at the Olympic Highway and its northern terminus at Baker Street. Yarragundry Street is an extension and is considered as a part of Uranquinty Cross Road in the assessment. Accordingly, no separate trip generation and impact assessment are provided for Yarragundry Street, as the analysis is primarily based on Uranquinty Cross Road.
- Uranquinty Cross Road: a local road that extends from Yarragundry Street to The Rock-Collingullie Road and runs an east-west alignment. Access to site would be primarily via Uranquinty Cross Road and Yarragundry Street from the Olympic Highway.

### Public and active transport

Due to its remote location, there are no public transport or active transport facilities or services in proximity to the proposed site. There are no dedicated footpaths and/or cycling lanes that can provide access to the proposed site.

### Crash data review

Road crash information in the vicinity of the proposed site was collected from road crash statistics published by NSW Centre for Road Safety over a five-year period. From 2018 to 2022, a total of three crash incidents were recorded on the Olympic Highway within a 2.5-km radius from the proposed site. No crashes were recorded on Yarragundry Street or Uranquinty Cross Road in proximity to the proposed site.

### Existing traffic volumes

Traffic data would typically be obtained from permanent counts data published on the Transport for NSW Traffic Volume Viewer and secondary data from available traffic studies and reports of other developments in proximity to the study area (when available). For roads with no available data, traffic volumes have been assumed based on data from nearby roads.

The data reviewed showed that peak traffic volumes were observed in the morning between 8:00 am - 10:00 am and in the afternoon between 4:00 pm - 6:00 pm across the identified key roads.

A summary of the derived traffic volume counts is provided in Table 6.20.

**Table 6.20** Traffic volume count summary (2025)

| Road Name             | Direction  | Heavy Vehicle (%) | AWDT (vpd) | Peak hour   |             |
|-----------------------|------------|-------------------|------------|-------------|-------------|
|                       |            |                   |            | am          | pm          |
| Olympic Highway (A41) | Northbound | 15.0              | 2735       | 08:00-09:00 | 15:00-16:00 |
|                       | Southbound |                   | 2752       | 08:00-09:00 | 15:00-16:00 |
| Uranquinty Cross Road | Eastbound  | 15.0              | 1,075      | N/A         | N/A         |
|                       | Westbound  |                   | 1,134      | N/A         | N/A         |

Note: AWDT = Average Weekday Daily Traffic      vpd = vehicles per day

## 6.5.3 Potential impacts

### Construction

Construction vehicle movements would comprise both heavy and light vehicles and would vary across the construction program, depending on the construction activity being undertaken. Construction would create additional traffic on the road network around the proposed site. This would include traffic during the construction, decommissioning and rehabilitation stages.

Estimated traffic generation during construction (worst case) is presented in Table 6.21.

**Table 6.21** Estimated traffic generation during construction stage (worst case)

| Road Name             | Direction  | Traffic generation |    |               |    | Total traffic generation (pcu) |         |
|-----------------------|------------|--------------------|----|---------------|----|--------------------------------|---------|
|                       |            | AM peak (pcu)      |    | PM peak (pcu) |    | AM peak                        | PM peak |
|                       |            | LV                 | HV | LV            | HV |                                |         |
| Olympic Highway       | Northbound | 6                  | 4  | 17            | 12 | 10                             | 29      |
|                       | Southbound | 17                 | 12 | 6             | 4  | 29                             | 10      |
| Uranquinty Cross Road | Eastbound  | -                  | -  | 23            | 16 | -                              | 39      |
|                       | Westbound  | 23                 | 16 | -             | -  | 39                             | -       |

Note: LV = light vehicles HV = heavy vehicles pcu = passenger car units (1 LV = 1 pcu , 1 HV = 2 pcu) (pcu are one-way vehicle movements)

Construction is expected to require a daily total of 32 heavy vehicle movements and 66 light vehicle movements. Peak hour vehicle movements are expected to be 23 light vehicles and eight heavy vehicles. Construction and personal vehicles would be parked at the appropriate designated area within the proposed site.

The impacts of the proposed modification on the road network were quantified by adding the traffic generated by the proposed modification works to the expected future traffic volumes on the road network. For the purposes of this assessment, future baseline traffic was estimated for the year 2026, when the worst-case construction stage is expected to commence. Future baseline traffic for 2026 was estimated by applying a traffic growth rate of 2.0 percent per annum to the 2025 traffic volumes.

The estimated increase in traffic volume during construction is detailed in Table 6.22.

Table 6.22 Estimated increase in peak hour two-way traffic volumes – construction

| Road Name                         | Direction  | Capacity<br>(pcu / direction) <sup>1</sup> | Traffic volume   |                  | Volume to capacity ratio |         |
|-----------------------------------|------------|--------------------------------------------|------------------|------------------|--------------------------|---------|
|                                   |            |                                            | AM peak<br>(pcu) | PM peak<br>(pcu) | AM peak                  | PM peak |
| 2026 traffic without construction |            |                                            |                  |                  |                          |         |
| Olympic Highway                   | Northbound | 1,700                                      | 389              | 199              | 0.229                    | 0.117   |
|                                   | Southbound | 1,700                                      | 168              | 295              | 0.099                    | 0.173   |
| Uranquinty Cross Road             | Eastbound  | 1,700                                      | 126              | 126              | 0.074                    | 0.074   |
|                                   | Westbound  | 1,700                                      | 133              | 133              | 0.078                    | 0.078   |
| 2026 during construction          |            |                                            |                  |                  |                          |         |
| Olympic Highway                   | Northbound | 1,700                                      | 399              | 228              | 0.234                    | 0.134   |
|                                   | Southbound | 1,700                                      | 197              | 305              | 0.116                    | 0.179   |
| Uranquinty Cross Road             | Eastbound  | 1,700                                      | 126              | 165              | 0.074                    | 0.097   |
|                                   | Westbound  | 1,700                                      | 172              | 133              | 0.101                    | 0.078   |

LEGEND  Congested

Note: pcu = passenger car units (1 LV = 1 pcu , 1 HV = 2 pcu)

1. It is noted that the original source indicates carriageway capacity using vph. For the purposes of this assessment, the capacity has been assumed to be equivalent to passenger car units (pcu).

The assessment indicated that the volume to capacity ratio of the assessed roads with the addition of traffic generated by construction the proposed modification would fall within the range of 0.11 to 0.24. This means that the roads are expected to have at least 76 percent spare capacity to accommodate additional traffic volumes.

The assessment concludes that construction is expected to have minimal impact on peak hour traffic volumes and road network operations along key roads within the vicinity of the proposed site.

## Worksite access sight distance

There are two existing access points available for the Uranquinty Power Station, that is located adjacent to the proposed site. One access will be potentially used as worksite access, which is shared with the Origin Power Station site.

The main access point to the proposed site was assessed to evaluate whether there is adequate longitudinal sight distance at the proposed site access to allow drivers approaching and exiting the temporary worksite to safely navigate into and out of the site.

This assessment considered the Approach Sight Distance (ASD) and Safe Intersection Sight Distance (SISD) requirements and the required sight distances were derived from the *Austroads Guide to Road Design Part 3: Geometric Design* (Austroads 2021a) and *Part 4A: Unsignalised and Signalised Intersections* (2021b). Table 6.23 provides a summary of the sight distance requirements for access to the proposed site.

The ASD is the minimum requirement to provide the driver of a vehicle with adequate sight distance to observe the road layout with sufficient time to react and stop, if necessary, before entering the road. The SISD provides sufficient sight distance for a driver of a vehicle on the major road to observe approaching vehicles from the minor road and to stop before a potential collision.

As summarised in Table 6.23, the measured sight distances meet the minimum sight distance requirements.

**Table 6.23** Sight distance requirement for cars and trucks

| Location                                               | Design speed (km/h) | ASD (minimum requirement) |        |                                  | SISD (minimum requirement) |        |                                  |
|--------------------------------------------------------|---------------------|---------------------------|--------|----------------------------------|----------------------------|--------|----------------------------------|
|                                                        |                     | Required (m)              |        | Measured (direction from access) | Required (m)               |        | Measured (direction from access) |
|                                                        |                     | Cars                      | Trucks |                                  | Cars                       | Trucks |                                  |
| Access from Uranquinty Cross Road to the proposed site | 100                 | 165                       | 191    | 500+ m (east)                    | 248                        | 317    | 500+ m (east)                    |
|                                                        |                     |                           |        | 500+ m (west)                    |                            |        | 500+ m (west)                    |

LEGEND

WITH ADEQUATE SIGHT DISTANCE

INADEQUATE SIGHT DISTANCE

- Requirements derived from Austroads Guide to Road Design Part 3: Geometric Design (2021a) and Part 4a: Unsignalised and Signalised Intersections (2021b)

## Other impacts

Construction and personal vehicles would park within the boundaries of the modification site. As such, vehicle parking demand generated by construction would have no impact on parking spaces and residents on roads surrounding the proposed site.

Vehicles would access the proposed site via the existing road access off Uranquinty Cross Road. No potential impacts on other forms of transport have been identified.

## 6.5.4 Mitigation measures

The proposed mitigation measures to reduce impacts to traffic and transport are provided in Table 6.24.

**Table 6.24** Mitigation measures – Traffic and transport

| ID    | Environmental safeguard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Responsibility | Timing                        |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------------|
| TT 01 | <p>A Traffic Management Plan will be prepared as part of the CEMP. The Traffic Management Plan will outline strategies to:</p> <ul style="list-style-type: none"> <li>– Manage vehicular traffic movement associated with the modification, including heavy vehicles</li> <li>– Minimise the impact of site-generated vehicle traffic on the operation of the adjoining road network, including impacts to other road users (including cyclists and pedestrians) via the following measures: <ul style="list-style-type: none"> <li>• Logistics management shall be controlled by the site supervisor to ensure the efficient movement of equipment and materials and to minimise the number of trips that will need to be taken for all vehicle types.</li> <li>• Carpooling opportunities for personnel sharing accommodation or living in close proximity to one another shall be utilised where feasible.</li> <li>• All vehicles shall comply with road traffic rules, particularly for any local traffic rules.</li> <li>• Adherence to assessed transport routes and speed limits.</li> </ul> </li> <li>– Facilitate the continuous, safe, and efficient travel of workers, contractors, and the general public.</li> </ul> | APA/Contractor | Pre-construction Construction |

| ID    | Environmental safeguard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Responsibility | Timing                           |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------------|
| TT 02 | <p>Heavy vehicle access measures will include:</p> <ul style="list-style-type: none"> <li>– Key stakeholders, including owners/operators of adjacent lands and emergency service providers, shall be notified of any changes to the traffic management arrangements prior to the commencement of works. Coordination and approval with the owners of the access roads (if an external party) shall be secured prior to the commencement of works.</li> <li>– Truck drivers shall be directed to follow the predetermined haulage routes. Additionally, all drivers must observe posted speed limits on adjoining road networks to comply with Australian road rules. Drivers are to adjust speeds to suit the road environment and weather conditions appropriately to ensure the safe movement of the vehicles based on the individual vehicle configurations.</li> <li>– Oversized or overweight loads shall be transported in accordance with the requirements of the relevant road authority.</li> <li>– A turnaround facility that can accommodate the largest vehicle entering the site shall be provided to allow all vehicles to exit the site in a forward direction, with vehicles to also enter in a forward direction.</li> </ul> | APA/Contractor | Pre-construction<br>Construction |
| TT 03 | <p>Safety measures will include:</p> <ul style="list-style-type: none"> <li>– All staff and subcontractors engaged on site shall be required to undergo site induction. The induction shall outline the requirements on the Traffic Management Plan, including site access routes, environmental and occupational health and safety responsibilities, emergency procedures, potential carpooling opportunities and vehicle height and mass restrictions, among others. Additionally, the Site Manager will discuss Traffic Management Plan requirements regularly as a part of regular "toolbox talks".</li> <li>– Access for emergency vehicles shall be maintained at the site during the construction works, in accordance with emergency vehicle requirements. The emergency services, including fire, ambulance and police, shall be advised of all planned changes to traffic arrangements prior to the commencement of works.</li> </ul>                                                                                                                                                                                                                                                                                               | APA/Contractor | All stages                       |

## 6.6 Social and economic

This section provides a summary of the social and economic impact assessment (SEIA) prepared by GHD. A full copy of the report is provided in Appendix I.

### 6.6.1 Methodology

DPHI required APA to assess the potential social and economic impacts associated with workforce accommodation requirements of the proposed modification. Given the scope of the proposed modification, only construction impacts require assessment in the SEIA.

As such, the SEIA:

- Describes the existing social and economic environment of the social locality (the geographical area of social influence of an existing operation or a proposed development).

- Assesses the potential socio-economic impacts associated with the workforce accommodation requirements for the construction phase of the proposed modification.
- Recommends measures to mitigate and manage the identified impacts.

To identify and assess impacts associated with the proposed modification, the SEIA has undertaken the following activities as part of the methodology:

- **Determined the social locality** – The social locality includes the people and communities most likely to experience changes to existing socio-economic conditions resulting from accommodation requirements of the proposed modification. The following social localities have been identified:
  - Proposed modification site.
  - Local study area (the township of Uranquinty).
  - Regional study area (Wagga Wagga LGA and the Riverina). NSW state demographic data has been used for comparison in the social and economic baseline assessment for the regional study area.
- **Scoping potential impacts** - The purpose of the SEIA scoping phase is to undertake a preliminary assessment of the potential positive and negative socio-economic impacts that may occur as a result of workforce accommodation requirements for construction the proposed modification. The scoping process was undertaken to help focus the assessment.
- **Establishing the social and economic baseline** – The social baseline establishes the current social characteristics within the social locality for the SEIA. The social baseline is used to inform the prediction of the potential socio-economic benefits and impacts of the proposed modification.
- **Stakeholder consultation** - Stakeholder consultation for the SEIA was undertaken to facilitate an exploration of socio-economic issues and opportunities with key local stakeholders by the SEIA team. Due to the strategic and focused scope of this SEIA on construction workforce accommodation, two stakeholders were contacted to participate in an interview or respond in writing to SEIA questions. All questions focused on the impact and management of the construction workforce accommodation requirements as expressly requested by DPHI.
- **Description and assessment of socio-economic impacts and benefits** - The evaluation of the identified socio-economic impacts was undertaken using a likelihood and magnitude significance rating, based on the significance criteria outlined in the *Social Impact Assessment Guideline* (DPE, 2023a) and *Technical Supplement - Social Impact Assessment Guideline for State Significant Projects* (DPE, 2023b)

The SEIA was prepared in accordance with the NSW DPHI *Social Impact Assessment Guideline* (DPE, 2023a). The methodology is available in full in Chapter 2 of the SEIA in Appendix I.

Given the small construction footprint and existing use of the Uranquinty Power Station near the site, a land use conflict risk assessment was deemed unnecessary.

## 6.6.2 Existing environment

A social and economic baseline assessment is provided in full in Chapter 5 of the SEIA (Appendix I).

### Population and settlements

Uranquinty is the nearest town to the proposed site. Located in the Wagga Wagga LGA and Riverina region of New South Wales, Uranquinty is approximately 400 km southwest of Sydney. In 2021, Uranquinty had a population of 913 with the median age being 39 years old. A total of 361 private dwellings were recorded in the area (ABS, 2021).

Uranquinty is on the lands of the Galing-galing clan of the Wiradjuri Nation (Wagga Wagga City Council, 2025a). The name Uranquinty is a derivation of the Wiradjuri Yurung guwindi from Yurung (rain) and Guwindi (plenty) (Wagga Wagga City Council, 2025a). The village was established in 1888 as a result of the expansion and settlement of the Riverina region and the building of the railway from Wagga Wagga to Albury (UPA, 2021). Today, Uranquinty is one of the largest villages in the Wagga Wagga LGA (Wagga Wagga City Council, 2025b), and is surrounded by agricultural and pastoral lands. There is no defined town centre, and both the Olympic Highway and Melbourne-Sydney Railway line transect Uranquinty. The village itself is low density, with most properties including a house with attached land. Services available in Uranquinty include a pharmacy, post office, service station, preschool and state school, the Uranquinty Hotel, and the Quinty Bakehouse. The Uranquinty Hotel is a local pub



and does not offer short-term or long-term accommodation. There are no short-term accommodation facilities located in Uranquinty as confirmed during SEIA consultation.

Wagga Wagga is the closest city and main service centre to the proposed site. Most of the population of the Wagga Wagga LGA live within the urban and suburban areas of the city, but many residents also live in one of the nine additional villages (Wagga Wagga City Council, 2025a). At the time of the 2021 census, Wagga Wagga LGA had a population of 67,609. As a large regional centre in NSW, the population of Wagga Wagga represented 41.3 percent of the population of the Riverina region (163,656 persons) at the time of the 2021 census.

### Zoning and land use

The site is located within the Wagga Wagga LGA of NSW. The proposed site is zoned SP2 Infrastructure, and its adjoining lots are zoned RU1 Primary Production in accordance with Wagga Wagga Local Environmental Plan 2010. Land use data categorised by the DPE Land use mapping data 2017 v1.2 (NSW Department of Planning, 2020), classifies the site as '3.3.0 Cropping'.

### Native title

A search of the National Native Title Tribunal revealed no native title claims for the Wagga Wagga LGA. The Tribunal revealed no Indigenous Land Use Agreements for the proposed site.

### Agricultural land

The site surveys undertaken for the proposed modification indicated evidence of previous vegetation clearing for agricultural use of the site.

### Non-agricultural uses

The site is located adjacent to the Uranquinty Power Station owned by Origin Energy. Some structures are located near the eastern boundary of the site. The proposed modification site is located approximately 3.4 km north-west of the town of Uranquinty, which contains various residential, social and commercial uses.

## 6.6.3 Potential impacts

A non-resident construction workforce of approximately 65 personnel (at peak construction) may be required to stay in local short-term and long-term accommodation facilities for the duration of construction for the proposed modification. Construction staff are proposed to be accommodated in Wagga Wagga.

The impacts and benefits associated with construction workforce accommodation requirements are summarised in Table 6.25. Social and economic impacts and benefits associated with the construction workforce accommodation requirements of the proposed modification are described in full in the SEIA available in Appendix I.

**Table 6.25** Summary of the social impacts and benefits of the proposed modification

| Impact category                  | Summary of impacts                                                                                                                                                               | Residual significance* |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Accommodation and housing        | The use of short-term accommodation facilities by non-resident workers impacts the availability of accommodation for other industries, such as tourism and the visitor economy.  | Medium Negative        |
|                                  | Non-resident construction workers using long-term accommodation reduce the availability and affordability of accommodation for local residents looking to rent or buy.           | Low Negative           |
| Social Infrastructure            | Worker influx results in the increased demand on social infrastructure (i.e. hospitals and medical centres), particularly if workers rely on existing town-based services.       | Low Negative           |
| Economy, business and employment | Use of local accommodation providers by the construction workforce provides a source of income for these businesses.                                                             | Low Positive           |
|                                  | Non-resident workers may increase patronage at local businesses, particularly retail and dining businesses, in locations where the non-resident workforce would be accommodated. | Medium Positive        |

| Impact category         | Summary of impacts                                                                                                                                                                                                                                      | Residual significance* |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Access and connectivity | Increased light vehicle movements from non-resident workers commuting between their accommodation site and proposed modification site may lead to concerns regarding traffic safety for some residents and road users along commute and haulage routes. | Low Negative           |
|                         | Increased light vehicles resulting from worker commutes has the potential to lead to temporary access and connectivity changes for residents in the local study area.                                                                                   | Low Negative           |
| Wellbeing and cohesion  | The presence of non-resident workers reduces community cohesion by engaging in anti-social behaviours, which is influenced by how and where workers are being accommodated.                                                                             | Low Negative           |

\* Residual significance is the significance of the identified impact following the implementation of mitigation measures as outlined in the SEIA (Appendix M).

## 6.6.4 Mitigation measures

The proposed mitigation measures to reduce impacts to socio-economic and land use are provided in Table 6.26.

**Table 6.26** Mitigation measures – Socio-economic and land use

| ID    | Environmental safeguard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Responsibility | Timing                           |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------------|
| SO-01 | <p>APA will prepare an Accommodation Strategy, which will propose measures to ensure there is sufficient accommodation for the construction workforce associated with the proposed modification. The strategy will:</p> <ul style="list-style-type: none"> <li>– Prioritise sourcing workers from within the local or regional study areas to reduce non-residential worker influx.</li> <li>– Provide an updated summary of the social and economic characteristics for the local or regional study areas, and any other towns and/or suburbs as they apply to the accommodation requirements of the proposed modification.</li> <li>– Assess workforce accommodation requirements and the feasibility of utilising rental accommodation, short-term accommodation providers, non-traditional accommodation providers (i.e. Air BnB), and utilising temporary workforce accommodation camps in agreement and discussion with operators (refer to Section 5.3.3 of the SEIA).</li> <li>– Consider options to partner with other proponents in the region to utilise their workforce accommodation camps as recommended during SEIA consultation undertaken in 2025.</li> <li>– Consider the cumulative impacts associated with other State significant development projects in the area, at the same time giving consideration to maximise benefits for local businesses.</li> <li>– Include a program to monitor and review the effectiveness of the strategy throughout the construction phase, including regular monitoring and review.</li> </ul> <p>Where other proponent's projects are included in the Accommodation Strategy to assess the cumulative socio-economic impacts associated with workforce accommodation requirements in the region, they will be screened in relation to APA's proposed modification, based on their nature, size, known timeframes, and proximity to the proposed modification site.</p> | APA            | Pre-construction<br>Construction |
| SO-02 | <p>A number of workforce management strategies would be implemented to promote the health, safety and wellbeing of the proposed modification workforce as well as managing potential impacts on local communities. APA's overall approach to workforce management will include:</p> <ul style="list-style-type: none"> <li>– Behaviour management at all times during the course of work through the use and implementation of a Code of Conduct</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | APA/Contractor | Pre-construction<br>Construction |

| ID    | Environmental safeguard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Responsibility | Timing                           |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------------|
|       | <p>that is applicable to all employees, contractors, subcontractors and consultants working on the proposed modification. The Code of Conduct will be linked to employee contract conditions.</p> <ul style="list-style-type: none"> <li>– Comply with workplace health and safety requirements outlined in the Modification Report and other technical studies.</li> </ul> <p>These will be implemented in accordance with APA's systems and processes and relevant legislated requirements.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                |                                  |
| SO-03 | <p>APA will prepare an overarching Community Engagement Plan to guide the management and delivery of community and stakeholder engagement in the lead up to and during construction to ensure that:</p> <ul style="list-style-type: none"> <li>– Accurate and accessible information about the proposed modification is provided</li> <li>– Feedback from the community is encouraged</li> <li>– Opportunities for input are provided</li> <li>– Community members and stakeholders with the potential to be affected by worker influx and accommodation are notified in a timely manner about the timing of activities and potential for impacts</li> <li>– Enquiries and complaints are managed, and a timely response is provided for concerns raised.</li> </ul> <p>The plan will include approaches and protocols to:</p> <ul style="list-style-type: none"> <li>– Communicate with potentially affected residents, other community members, businesses and other key stakeholders to provide information about the proposed modification, and the likely nature, extent and duration of changes</li> <li>– Identify and engage with vulnerable persons that might be affected by the proposed modification</li> <li>– Communicate information about potential access changes</li> <li>– Share information about the proposed modification with other regional stakeholders to assist with managing cumulative impacts on local and regional communities.</li> </ul> <p>An enquiries and complaints management system will be developed, outlined in the Community Engagement Plan, and implemented during all phases of the proposed modification. The complaints management systems will be maintained throughout the construction, operation and decommissioning and rehabilitation period.</p> | APA            | Pre-construction<br>Construction |

## 6.7 Surface water, groundwater and soil assessment

This section provides a summary of the surface water, groundwater and soil assessment prepared by GHD. A full copy of the report is provided in Appendix J.

### 6.7.1 Methodology

The soil and water assessment was undertaken with consideration of relevant policies and guidelines, including:

- *NSW Water Quality and River Flow Objectives* (DECCW, 2006)
- *Managing Urban Stormwater: Soils and Construction – Volume 1* (Landcom, 2004) (the Blue Book)
- *Managing Urban Stormwater: Soils and Construction – Volume 2C Unsealed Roads* (DECC 2008)
- *NSW State Rivers and Estuaries Policy* (NSW Water Resources Council 1993)
- *NSW Aquifer Interference Policy* (DPI, 2012)
- *Cumulative Impact Assessment Guidelines* (DPE 2022b).

The methodology for the soil and water assessment included the following key tasks:

- a desktop review of the existing baseline soil and water (surface and groundwater) environment of the study area for the proposed site, which includes the site, watercourses, and potential water users downstream of the proposed site
- a desktop assessment of the potential impacts of constructing and operating the proposed modification on soil and water quality (surface and groundwater) and downstream water users/receptors
- cumulative impact assessment
- identifying measures to avoid, minimise and manage identified impacts on soil and water.

## 6.7.2 Existing environment

### Climate

The proposed site and surrounding area receive an average rainfall of 543 mm/year, with an average evaporation of 1,622 mm/year. The annual rainfall deficit is approximately 1,079 mm/year. There is limited seasonality in monthly rainfall trends exhibited throughout the year, while evaporation varies seasonally, with higher evaporation in summer compared to winter. The site experiences an average monthly net rainfall deficit for most of the year, except in June and July. Average monthly rainfall and evaporation based on 2023 data is presented on Figure 6.5.

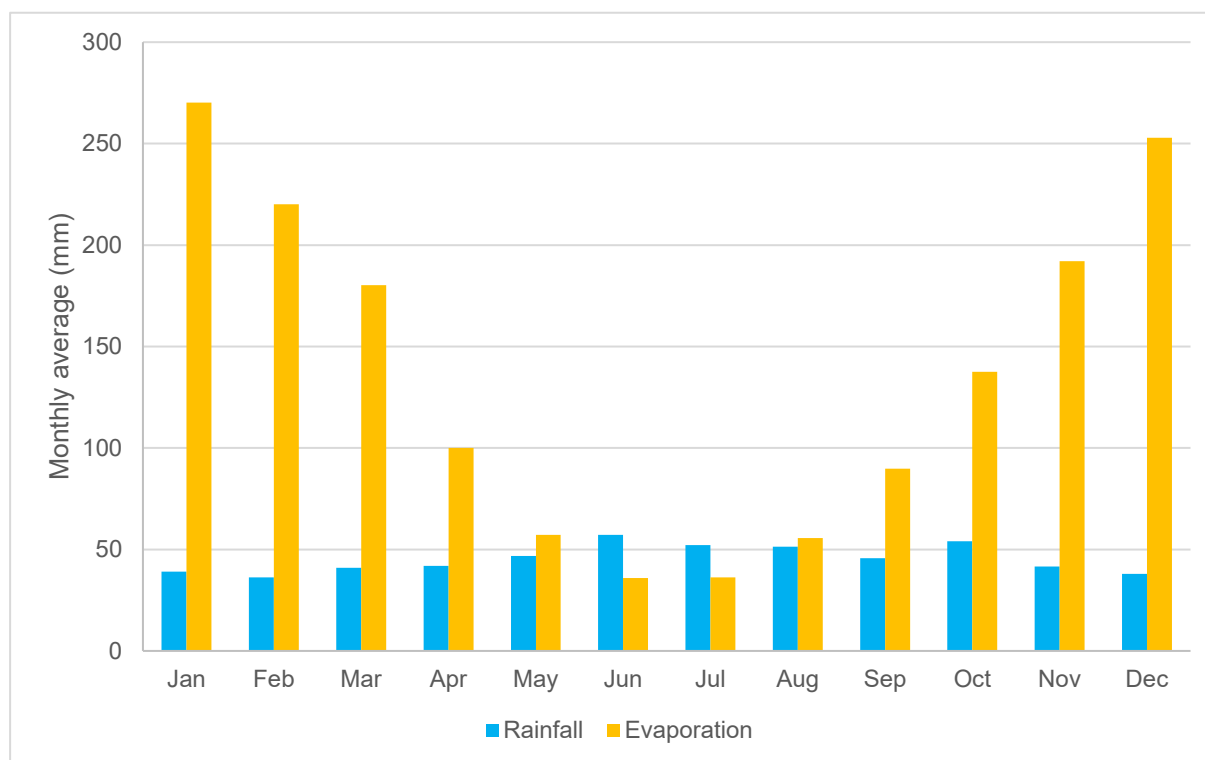


Figure 6.5 Average monthly rainfall

### Topography and hydrology

The elevation within the area of the proposed site ranges from approximately 210 m Australian Height Datum (m AHD) to 211 m AHD. From Uranquinty Cross Road, located on the south side of the proposed site, surface elevation decreases, dropping from 211 m AHD to 210 m AHD on the north side of the site. Around 90 per cent of the proposed site area has a land slope of less than three degrees.

The proposed site is located 1.9 km north east of Sandy Creek, an ephemeral sixth order stream. The confluence of Sandy Creek and Murrumbidgee River is approximately 10 km north of the Uranquinty township. The Murrumbidgee River flows west and ultimately joins the Murray-Darling River.

## Geology and soils

Surface geology data has been sourced from the NSW Seamless Geology Version 2.3 dataset (NSW Government, 2020). The geological descriptions reveal that there are alluvial channel deposits, coded as Q\_ca, which comprise a mix of colluvial, alluvial, and aeolian sediments. The Wagga Wagga 1:250 000 Geological Sheet (Adamson and Loudon, 1966) indicates that bedrock is likely Palaeozoic aged granite and gneiss.

Soil types in the vicinity of the proposed site have been derived based on information publicly available on eSPADE the Australian Soil Classification soil type map of NSW and the Great Soil Group Soil Type Map of NSW (DPIE, 2021), as well as relevant soil landscapes mapping.

The proposed site is mapped as Chromosols (ASC) and Non-calci Brown Soils (GSG). Soil is moderately moist to moist during winter and spring but becomes dry in summer and early autumn. Surface runoff is typically low within the area. The soil profile of the surrounding area confirms that the soils possess a low sand and silt content, contributing to their slight water erosion hazard. The minimal proportion of fine sand in the soils suggests very slight to negligible wind erosion limitations.

## Hydrogeology

The proposed site is located in the Lachlan Fold belt Murray Darling Basin. The Lachlan Fold Belt Murray Darling Basin spans across different depths and is characterised by its varied geology. The aquifers within this region can be either unconfined or confined, depending on the location and the geology above it (WSP 2022; ARTC 2022).

The upper groundwater layer consists of colluvium and alluvium, including gravel, sand, silt, and clay. Notably, quaternary alluvium predominates along creek lines and floodplains. The underlying rock units are distinguished by the Gilmore Fault Zone, which separates the granite from adjacent rock formations, including siltstone, sandstone, shale, conglomerate, and a few felsic volcanic rocks (ARTC 2022).

## Receptors

### Registered bores

A search of the Australian Groundwater Explorer (BOM, 2023a) and WaterNSW (2023) was undertaken to identify registered bores in the vicinity of the proposed site. There are fourteen bores within a 5 km radius of the proposed site. These bores serve various purposes: five for stock and domestic, four for monitoring, three for stock use, one for stock, domestic, and irrigation use, and one with an unknown purpose. The standing water level in these bores ranges from 2.4 to 53.6 m below ground level, with a maximum yield of 14 litres per second (L/s).

### Groundwater dependent ecosystems

A search of the *Groundwater Dependent Ecosystem Atlas* (BOM, 2023b) was undertaken to identify GDEs within a 10 km radius of the site. Potential GDEs are identified based on regional assessments of groundwater levels, remote sensing of vegetation and surface topography. The mapping (BOM, 2023b) generally identifies potential GDEs based on regional mapping and therefore the potential GDEs often correspond with areas of vegetation.

The search of the Atlas identified areas of low, moderate, and high potential terrestrial GDEs in the vicinity of the site. The closest high potential terrestrial GDE is located 6.7 km north from the proposed site. In the vicinity of the proposed site, both moderate and low potential GDEs, including stands of river red gums and various understory species, have been identified within a 2.3 km radius. This indicates that flows in Sandy Creek include alluvial surface expression of groundwater, in addition to water supplied by the surface water system through catchment runoff.

The Probable Vegetation Groundwater Dependent Ecosystems - Murray / Murrumbidgee (DPE Water, 2018) was also reviewed to identify highly probable groundwater dependent ecosystems (GDEs) in the vicinity of the proposed site. High probability GDEs are located 6.7 km north of the proposed site, which matches the results found in the GDE Atlas search.

The search for High Ecological Values Aquatic Ecosystems (HEVAE) Vegetation GDEs has identified areas of medium and high overall HEVAE score GDEs in proximity to the proposed site. It indicated that the River Red Gum herbaceous-grassy very tall open forest wetland, located on the inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the Eastern Riverina Bioregion, represents a high overall

HEVAE score GDE. This area is situated approximately 6.7 km north of the proposed site, aligning with the probable and potential GDEs search results. This high potential, high probability, and high overall HEVAE score GDE is along the Murrumbidgee River, an important tributary of the Murray River, flowing westward and located 9.3 km north of the proposed site.

No high priority GDEs have been identified within 10 km of the proposed site in the Lachlan Fold Belt Murray Darling Basin groundwater source area.

### **6.7.2.1 Water supply**

It is estimated approximately 10 ML of water (potable and non-potable) is required for the 12-month duration of the construction period. Water is required for construction purposes, including dust suppression. After consulting with water supply services and considering the findings from GHD's investigation on water supply bores (GHD, 2023), water will be sourced both through a proposed connection to the DN100 hydrant supply from Riverina Water which has a water main adjoining the edge of the site, as well as trucking of water from the bulk water filling station located in Wagga Wagga.

The trucking of water is anticipated to be only required for bulk earthworks construction which is likely be for an initial three months and require a higher volume of water. This option necessitates determination of delivery schedules for cost estimation purposes, focusing on the frequency of water deliveries to the proposed site. Following the bulk earthwork phase, construction water demand reduces and the water main will be used by construction team for civil works, dust suppression etc.

Water supply for decommissioning will be obtained through the same methods as for the construction phase.

During operations of the UCS, a small water supply is required for basic building use, any ad hoc onsite maintenance personnel and the ablutions. Given the proposed site would be unmanned, the water usage would be very limited.

APA will apply for a standard connection request from Riverina Water to the DN50 water main line running along the southern boundary of the site. It will also be investigated if a rainwater runoff collection and storage system can be utilised for the ad hoc maintenance activities where required.

## **6.7.3 Potential impacts**

### **Surface water**

#### **Construction**

The proposed construction works include various activities that have the potential to impact surface water quality. These activities include:

- Site bulk earthworks, which have the potential to mobilise surface sediments resulting in impacts associated with erosion and sedimentation as well as impacts to in situ sediments, including:
  - Vegetation clearance (as required) within the proposed site.
  - Excavation and disturbance of soils including excavation for buried services and cut/fill to establish levels for infrastructure installation.
  - Establishment of internal access roads and ramps to facilitate access to work areas.
- Mobilisation and demobilisation of construction equipment. Mobilisation of excavators, graders and associated service vehicles may disturb topsoils resulting in impacts to off-site sedimentation.
- Handling hazardous materials such as chemicals (including fuels) for the construction of the proposed modification. Hazardous materials may migrate to receiving surface waters without implementation of appropriate controls.

#### **Erosion and sedimentation**

The proposed site has a total area of 45,736 m<sup>2</sup>. The proposed construction and decommissioning activities would disturb soils, in order to allow installation of services and develop hardstand areas, storage areas and internal access roads and ramps.



An assessment of the soil loss hazard for the proposed site has been undertaken for the construction period. The construction period is expected to take approximately 12 months. As indicated in Section 6.7.2 there is limited seasonality in rainfall variation throughout the year at nearby rainfall gauge stations. Therefore, there is no specific seasonal impacts that should be considered in the timing of construction.

The estimated worst case soil loss for the construction of the proposed site is approximately 145 m<sup>3</sup>/year. The values of soil loss presented would represent a worst-case upper-level estimate for the proposed site, based on clearance of the existing site topsoil. Given that sediment basins are recommended for soil loss rates exceeding 150 m<sup>3</sup>/year, the inclusion of a sediment basin is not considered necessary for this proposed modification. However, sediment basins may be required if identified in detailed site construction staging and should be finalised during the development of the site-specific construction environmental management plan documentation. It is expected that implementation of other standard erosion and sediment controls is suitable to manage sediment generated during construction.

The erosion and sediment controls will be adopted in the proposed modification and included in the site-specific Erosion and Sediment Control Plan that will form part of the Soil and Water Management Plan. With the implementation of the Soil and Water Management Plan, the likelihood of erosion and sedimentation during construction will reduce in severity.

### **Hazardous materials handling**

The handling of materials hazardous to downstream waterways (excluding those associated with erosion and sedimentation) is required to permit construction of the proposed modification. Potential activities where handling of hazardous materials could occur may include the accidental spills of stored materials (e.g., fuels (diesel), oil).

The potential impact associated with the handling of these components includes the potential mobilisation into downstream waterways either via direct flow of the material itself, or through washing from either rainfall derived runoff, or from applied water on disturbed areas (e.g., during dust suppression) resulting in impact on the downstream water quality. Once mobilised into downstream waterways, impacts to stream health and both flora and fauna are likely and would vary in terms of persistence and severity.

The risk of handling these materials is typical of works of this nature and well established industry standard control measures are commonly used, such as bunding, safely storing hazardous materials, making available spill kits at appropriate locations for the management of accidental spills, and visual inspection of the works area and waterways and are commonly employed during implementation of a CEMP and Soil and Water Management Plan. On this basis, with the specified future development of required mitigation and plans the proposed modification is not anticipated to result in unacceptable water quality risks during construction with relation to handling of high-risk materials.

### **Operation**

During the operational phase, potential impacts to watercourses from erosion and sediment risks are expected to be of lesser magnitude than construction and decommissioning. Given there are no ongoing activities proposed at the site which would generate sediment, no surface water quality monitoring is proposed or required during the operational phase. The site will be operated remotely and access to the site would only be required if maintenance is required. Impacts are likely to be relatively limited, constrained to vehicle movements on designated access roads and potential for leaks and spills.

### **Potential to impact downstream users**

It is considered highly unlikely that licensed surface water or groundwater users would be impacted by operation of the UCS.

Surface water quality impacts at the site are expected to be negligible, as the site would be operated remotely, minimising the risk of activities that would generate spills and sediment generating activities. It is unlikely that downstream domestic and stock water users would be impacted by runoff from the site. Infiltration of runoff during maintenance periods will not result in water quality impacts to alluvial groundwater users.

## **Flooding**

### **Construction**

No additional flooding impacts are likely to occur due to the construction or decommissioning of the UCS, due to the proximity of the site to the nearest drainage line. Changes to the topography of the proposed site due to earthworks are expected to be negligible and not materially impact overland flow regimes during the construction period.

### **Operation**

The positioning of new infrastructure can impact flood regime through alteration of catchment topography, depending on the proximity to waterways and existing catchment topography. Impacts to flooding can include increases or decreases in depth, velocity, duration and/or extent of flood. Flood impacts may ultimately change the overall waterway inundation during flood events or change the potential flood hazard to communities in flood prone areas.

The GRC Hydro flood mapping indicates that peak flood elevation at Sandy Creek varies from 205 to 190 m AHD from upstream to downstream of the hydraulic model extent during 1% Annual Exceedance Probability design flood events. The site is located along a ridge line and may receive overland flow from a relatively small upstream catchment formed by a knoll. However, the railway line that runs parallel to Olympic Highway, is approximately located 2.6 km to the south and south-east of the site may partially restrict flows from reaching the proposed site. Based on site ground elevation (210 m AHD) relative to the 1% Annual Exceedance Probability flood level (205 m AHD) at Sandy Creek it is highly unlikely that the site will be impacted by mainstream flooding.

## **Groundwater**

### **Construction**

Construction activities generally have the potential to impact groundwater through:

- Interception of the groundwater table through excavation
- Leaks and spills of hydrocarbons and other chemicals to infiltrate into alluvial groundwater table.

The potential impacts have been assessed in accordance with the NSW *Aquifer Interference Policy* (DPI, 2012). The Aquifer Interference Policy requires that potential impacts on groundwater sources, including their users and GDEs, be assessed against Minimal Impact Considerations, outlined in Table 1 of the policy. If the predicted impacts meet the Level 1 Minimal Impact Considerations, then these impacts will be considered as acceptable.

There are 14 bores within a 5 km radius of the proposed site. The maximum reported yield at these bores is 14 L/s. Groundwater at the proposed site is therefore defined as “highly productive” as per the NSW Aquifer Interference Policy (DPI, 2012).

### **Impacts to existing groundwater users**

Foundations for the compressor station will be slab on ground, spread footings or driven or bored steel pile foundations. Foundations will be installed in the alluvium or the residual soils. Available groundwater level data, obtained from registered bores near the proposed site, indicates that the shallowest groundwater exists at 6.1 m below ground level, which is deeper than the foundations depth.

As these foundations would not intercept groundwater it is unlikely that dewatering of groundwater within the alluvium would be required for construction of the UCS. Therefore, there would be no change to the availability of groundwater for existing groundwater users in terms of groundwater yield.

### **Impacts to GDEs**

There are no high priority GDEs or culturally significant sites listed in the relevant Water Sharing Plans within 10 km of the proposed site. Construction activities would be unlikely to intercept groundwater. Therefore, dewatering of footings during the construction phase for the UCS would not impact any nearby GDEs in terms of groundwater availability.

Chemicals and fuelling activities would be undertaken within a bunded area to ensure the management of leaks and spills of hydrocarbons and other chemicals is effectively carried out, minimising environmental risks.

Water supply for the construction and decommissioning phases of the proposed modification would be sourced outside of the surface and groundwater system. Therefore, this aspect of the proposed modification would not impact the groundwater or surface water system.

### Impacts to groundwater quality

The construction and operation of the proposed site, including the use of groundwater for water supply is not expected to cause any significant change in groundwater quality. Potential impacts are within the Level 1 minimal impact considerations for high priority GDEs and culturally significant sites in the NSW Aquifer Interference Policy (DPI, 2012).

### Operation

There are no activities proposed during the operational phase that would contribute to impacts to groundwater. Spills of hydrocarbons or other chemicals on site are unlikely to infiltrate to the alluvium given the topography of the site. Therefore, there are minimal anticipated impacts to groundwater during the UCS operational period, which would affect licenced groundwater users, GDEs or other receptors.

## 6.7.4 Mitigation measures

The proposed mitigation measures to reduce impacts to surface water, groundwater and soil are provided in Table 6.27.

**Table 6.27** Mitigation measures – Surface water, groundwater and soils

| ID    | Environmental safeguard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Responsibility | Timing                                        |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------------------------|
| SW-01 | <p>Preparation and implementation of a site-specific Soil and Water Management Plan, underpinned by an Erosion and Sediment Control Plan, in accordance with the “Blue Book” (Landcom, 2004) and IECA (2008) during the construction and operational phases to minimise downstream surface water quality impacts and flood risks, to include the following as a minimum:</p> <ul style="list-style-type: none"> <li>– implementation of all reasonable and practicable measures needed to protect downstream waters from the adverse effects of sediment and turbid water discharge</li> <li>– bunding and covering of site areas containing potential contaminants (such as fuel, oil, grease and chemicals) in accordance with <i>Australian Standard AS1940: The storage and handling of flammable and combustible liquids</i> to prevent contamination of stormwater runoff, with offsite disposal of captured water/contaminants</li> <li>– prevention of minimisation of soil erosion rather than allowing erosion to occur and relying on sediment control measures to trap and contain sediment and turbid runoff</li> <li>– ensuring all reasonable and practical measures to protect downstream water users and properties from the adverse effects of sediment and turbid water discharges</li> <li>– ameliorating soils by the incorporation of gypsum into the soil at rates determined by site-specific soil testing</li> <li>– implementing 10 m buffer distances of construction works from waterways</li> <li>– stabilising hardstand areas by gravel sheeting or concreting, and stabilised or strengthened where required</li> <li>– progressively rehabilitating and stabilising disturbed areas after construction that are no longer required in operations.</li> </ul> | APA/Contractor | Pre-construction<br>Construction<br>Operation |
| SW-02 | Implementation of slope design and stabilisation rules guided by material erosion and agronomic characterisation of the site soils for all cut and fill works.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | APA/Contractor | Pre-construction<br>Construction              |

| ID    | Environmental safeguard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Responsibility   | Timing                           |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------------------|
| SW-03 | Scheduling of major land disturbance works to avoid periods of high wind, where practicable, and adjusting erosion and sediment control measures during adverse weather to minimise downstream water quality impacts.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | APA/Contractor   | Construction                     |
| SW-04 | Design of site drainage, installation of water management structures, and rehabilitation to include the following measures: <ul style="list-style-type: none"> <li>– maximising sheet flow where possible</li> <li>– minimising the construction of diversion drains, channels and table drains as much as possible and where practicable</li> <li>– using organic and woody wastes from vegetation clearing for soil erosion protection purposes on stockpiles and rehabilitated areas.</li> </ul>                                                                                                                                                                                                                                                                     | APA / Contractor | Pre-construction<br>Construction |
| SW-05 | Weekly inspection of erosion and sediment controls throughout the proposed site during construction to ensure they are operating adequately.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | APA / Contractor | Construction                     |
| SW-06 | Installation and maintenance of sediment basins or alternative sediment control measures where required, based on detailed site construction staging and site-specific CEMP documentation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | APA / Contractor | Construction                     |
| SW-07 | Regular monitoring and maintenance of bunding and spill containment measures for hazardous materials storage areas to prevent any potential contamination of surface and groundwater.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | APA / Contractor | Construction<br>Operation        |
| SW-08 | Storage and handling of potential land contaminants (fuel, oil, grease, and other chemicals) in accordance with <i>Australian Standard AS1940: The storage and handling of flammable and combustible liquids</i> within bunded area to prevent contamination of stormwater runoff.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | APA / Contractor | Construction<br>Operation        |
| SW-09 | Undertaking of works according to standard operating procedures to avoid accidental spills of fuel, oil and grease and other chemicals.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | APA / Contractor | Construction<br>Operation        |
| SW-10 | Provision of spill kits at appropriate locations for the management of accidental spills of fuels, oil and grease.<br>Routine visual monitoring and recording of chemicals and fuel storage facilities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | APA / Contractor | Construction<br>Operation        |
| SW-11 | Management of soil contaminated with accidental fuel and oil spills and grease either within the proposed site or by transporting it off site to licensed facilities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | APA / Contractor | Construction<br>Operation        |
| SW-12 | Appropriate use of water for dust suppression so usage does not contribute to excess runoff or water quality degradation, applying water efficiency measures and sourcing water sustainably.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | APA / Contractor | Construction<br>Operation        |
| SW-13 | Review of the flood assessment (and undertake remodelling as appropriate) in the event of a discrepancy between the flood assessment and the observations within the proposed site.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | APA / Contractor | Operation                        |
| SW-14 | Implementation of a rehabilitation strategy to guide progressive rehabilitation planning, implementation, monitoring and maintenance of disturbed areas outside of the operational footprint, with defined objectives comprising: <ul style="list-style-type: none"> <li>– landscaping and re-vegetating using native woodland and understorey species.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                      | APA / Contractor | Construction<br>Operation        |
| SW-15 | Implementation of a rehabilitation strategy to guide the life of the project rehabilitation of the proposed site after 25 years with the following objectives: <ul style="list-style-type: none"> <li>– creating a final landform that will: <ul style="list-style-type: none"> <li>• be safe, hydraulically stable and non-polluting</li> <li>• integrate with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land</li> </ul> </li> <li>– re-vegetating rehabilitation areas using native woodland and understorey species.</li> <li>– undertaking rehabilitation as soon as reasonably practicable following disturbance to reduce minimisation of the total area exposed.</li> </ul> | APA / Contractor | Construction<br>Operation        |

## 6.8 Hazards and risk

This section provides a summary of the preliminary hazards and risk assessment prepared by GHD. A full copy of the report is provided in Appendix F.

### 6.8.1 Methodology

The potential impacts relating to hazards and risks from the proposed modification was undertaken in accordance with the approach outlined in the *Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis* (DoP, 2011a).

The assessment included:

- Assessment of the risk posed by the proposed modification complying with the risk criteria outlined in the *Advisory Paper No 4 – Risk Criteria for Land Use Safety Planning* (HIPAP No 4) (DoP, 2011b).
- Desktop assessment to undertake the Hazard Identification (HAZID) process which involves documenting possible events that could lead to a possible off-site incident. The assessment then lists the potential causes of the incident, as well as identification of operational and organisational safeguards to prevent the incidents from occurring or mitigate their impact.
- *Applying SEPP 33 Hazardous and Offensive Development Application Guidelines* (SEPP 33 Guidelines) to assess whether the proposed modification poses significant risk or offence. This requires identification of potential hazards to highlight any risks associated with the interaction of the proposed (as a whole) with the surrounding environment (i.e. a systematic process to identify any potential off-site impacts). (DoP, 2011c)
- Consideration of compliance with the State Environmental Planning Policy (Resilience and Hazards) 2021.
- Utilising the *Multi-level Risk Assessment Guideline* (DoP, 2011d) to assign the level of risk assessment for the proposed modification.
- Undertaking a dangerous goods and hazardous materials screening against the SEPP 33 Guidelines (DoP, 2011c) thresholds of dangerous goods to determine if the proposed modification poses significant offsite risks during construction and operation.

Further details on the methodology is available in the Appendix F.

### 6.8.2 Existing environment

Hazardous materials may be used throughout the life of the proposed modification, including dangerous goods and non-dangerous goods. The storage and handling of dangerous goods and hazardous materials have the potential to impact the surrounding community and environment if leaks and spills occur, resulting in the potential contamination of air, soils, surface water and/or groundwater.

During operation, in general, the only dangerous good would be the natural gas (predominantly methane) flowing through the UCS. A number of other hazardous materials and dangerous goods would be used for UCS maintenance activities, however, the volumes required would still be much smaller than the volumes required for construction and represent a lower risk.

### 6.8.3 Potential impacts

#### **Dangerous goods and hazardous materials risk screening**

During construction, a wide range of hazardous materials, including dangerous goods and non-dangerous goods, would be used and stored within the proposed site. Based on the quantities of materials required, the proposed modification does not pose a significant offsite risk during the construction phase and quantitative assessment of construction related loss of containment risks are not required as per State Environmental Planning Policy (Resilience and Hazards) 2021 requirements.

During operations natural gas would flow through the UCS, and a number of other hazardous materials and dangerous goods would be used for compressor station maintenance activities, however, the volumes required would still be much smaller than the volumes required for construction. Natural gas (methane) is the only

hazardous material in significant quantities that would pose a potential risk to nearby people, property, or the biophysical environment during the operation phase.

In general, the only dangerous good would be the natural gas (predominantly methane) flowing through the compressor station, as listed in Table 6.28. A number of other hazardous materials and dangerous goods would be used for compressor station maintenance activities, however, the volumes required would still be much smaller than the volumes required for construction.

**Table 6.28** Operations dangerous goods volumes and thresholds

| Material                                      | Material properties                                                                    | Anticipated flowrate / storage volume | Description of use                                                                                                                                                                                                                   |
|-----------------------------------------------|----------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Natural gas (methane)<br>UN 1971<br>Class 2.1 | Natural gas is considered a hazardous substance. It predominantly consists of methane. | Up to 232 kSm <sup>3</sup> /hr        | The Culcairn to Wagga Pipeline currently operates at a forward haul capacity up to 232 kilo standard cubic meters per hour (kSm <sup>3</sup> /hr).<br>Natural gas will be present during commissioning and operations.               |
| Lubrication oils                              | Class C2 combustible liquids.                                                          | 20 L drums or IBCs                    | Compressor electric motor lubrication.<br>Centrifugal gas compressor lubrication.<br>There is no SEPP 33 Guidelines threshold for either storage volume or minimum distance from sensitive receptor for Class 2 combustible liquids. |

Within the compressor inlet piping, compressor outlet piping, and associated equipment, there is approximately 530 kg of natural gas, which exceeds the State Environmental Planning Policy (Resilience and Hazards) 2021 threshold of 100 kg for Class 2.1 dangerous goods which triggers the need for a quantitative preliminary hazard analysis.

## Hazard material consequence and risk modelling results

From the hazard identification undertaken for the proposed modification, natural gas is the only substance of interest and the UCS contains mainly methane, which is flammable between 5 per cent and 15 per cent by volume and is a simple asphyxiant. On release, the gas tends to rise as it has a lower density than air at ambient conditions. Loss of containment of natural gas from the UCS may result in fires, in the event of ignition.

Fires can be classified as:

- **Jet fire:** could occur whenever there are pressurised flammable gases or liquids (like the natural gas through the pipeline) and results from the immediate ignition of the escaping liquid.
- **Vapour cloud explosion:** is an explosion occurring after the release of a large quantity of flammable gas, which ignites following the formation of a flammable cloud within the upper and lower flammable limits in a confined area causing a damaging pressure wave.
- **Flash Fire:** If a gas release does not ignite immediately, a gas cloud may form which could find an ignition source distant from the release location leading to a flash fire or vapour cloud explosion. A flash fire is a slow deflagration of an unconfined, unobstructed gas cloud producing negligible overpressure.
- **Fireball:** A fireball may be formed from the instantaneous flashing of superheated material due to the catastrophic failure of a storage container or pipeline creating an expanding cloud of material. A fireball is created if this cloud is ignited, often from the flame source that caused the initial vessel failure.

Five worse case scenarios were chosen for the consequence modelling, with potential for jet fire impingement on or flash fire engulfment of onsite operations, construction and maintenance workforce, nearby equipment, and off-site receptors including people on Uranquinty Cross Road and at the Uranquinty Power Station. Consequences beyond these identified off site receptors would not be impacted by credible scenario.

The consequence modelling was undertaken under all weather conditions to assess the fire impact distance from the modelled gas release location.

The impact results from the modelled scenarios are presented in tabular form and as heat radiation contours overlaid on the proposed site layout in Appendix K. The contour maps present the total heat radiation effect zone



with the greatest heat radiation closest to the fire (jet fire, flash fire, fireball) source location(s), as expected, and the least furthest away from the source. These contours show that the impacts can extend radially outside the proposed site boundary.

Further analysis of the modelled scenarios was undertaken to assess if the risks of each modelled scenario would meet the HIPAP 4 risk criteria for:

- Individual fatality risk
- Individual injury risk
- Property damage risk
- Societal risk.

### Individual fatality

The cumulative individual fatality risk for the proposed modification assessed against the land use criteria in HIPAP 4 (DoP, 2011b) is shown in Figure 6.6.



Figure 6.6 Individual fatality risk contours

Figure 6.6 shows the risk levels for individual fatalities at the majority of land use criteria were found to extend beyond the proposed site boundary. The following summarises the results against the HIPAP 4 (DoP, 2011b) criteria:

- Sensitive dwellings such as hospitals, schools, child-care facilities, and old age housing developments should not be exposed to individual fatality risk levels in excess of half in a million per year ( $5 \times 10^{-7}$  per year, shown in purple). Even though the  $5 \times 10^{-7}$  risk contour extends beyond the site boundary, this criterion is met as there are no sensitive dwellings in the vicinity of the site.
- Residential developments and places of continuous occupancy, such as hotels and tourist resorts, should not be exposed to individual fatality risk levels in excess of one in a million per year ( $1 \times 10^{-6}$  per year, shown in blue). Even though the  $1 \times 10^{-6}$  risk contour extends beyond the site boundary, this criterion is met as the nearest residential development is greater than 900 m from the site.
- Commercial developments, including offices, retail centres, warehouses with showrooms, restaurants and entertainment centres should not be exposed to individual fatality risk levels in excess of five in a million per year ( $5 \times 10^{-6}$  per year, shown in red). This criterion is met as there are no commercial developments in the vicinity of the site.

- Sporting complexes and active open space areas should not be exposed to individual fatality risk levels in excess of ten in a million per year ( $1 \times 10^{-5}$  per year, shown in green). This criterion is met as there are no sporting complexes in the vicinity of the site.
- Individual fatality risk levels for industrial sites at levels of 50 in a million per year ( $5 \times 10^{-5}$  per year, shown in yellow) should, as a target, be contained within the boundaries of the site where applicable. This criterion is met as this risk level is within the site boundaries and does not encroach onto the neighbouring power station and Australian Gas Network fenced compound (highlighted in blue on Figure 6.6).

The modelling results indicate that the risk contour for commercial developments ( $5 \times 10^{-6}$  per year, shown in red) encroaches onto the Uranquinty Power Station, Australian Gas Network compound, and neighbouring lots, which are currently unoccupied.

### Individual injury risk

The cumulative individual risk is shown in Figure 6.7 which shows the cumulative  $5 \times 10^{-5}$  per year contour does not reach any of the sensitive receptors. A portion of the risk contour encroaches onto the Australian Gas Network fenced compound shown in light blue. While personnel working in this area are exposed to greater than the cumulative individual injury risk criterion in HIPAP 4 (DoP, 2011b), this area is considered industrial and the HIPAP 4 injury risk criterion only applies to sensitive and residential receptors, so this does not impose any land use restrictions. The metering station is also unmanned and would only be accessed for occasional maintenance.



Figure 6.7 Individual Injury risk contour

### Property damage risk

The relevant property damage risk criterion from HIPAP 4 (DoP, 2011b) is based on the  $23 \text{ kW/m}^2$  heat flux level not exceeding  $5 \times 10^{-5}$  per year. The cumulative  $5 \times 10^{-5}$  per year property damage risk contour for this thermal radiation level is localised to within the compressor station site and does not extend to the neighbouring Uranquinty Power Station or Australian Gas Network compound. Therefore, the HIPAP 4 (DoP, 2011b) criteria is met.





Figure 6.8 Property damage risk contour

### Societal risk

The NSW HIPAP 4 (DoP, 2011b) provides indicative societal risk criteria for when there is significant population around a potentially hazardous facility. As there is no significant population around the proposed modification, societal risk was not calculated for the preliminary hazard analysis.

## 6.8.4 Mitigation measures

The proposed mitigation measures to reduce impacts to hazards and risk are provided in Table 6.29.

Table 6.29 Mitigation measures – Hazards and risk

| ID    | Environmental safeguard                                                                                                                                                                                                                                                                                                                         | Responsibility | Timing                                        |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------------------------|
| HR-01 | An operating and control philosophy will be developed for the operation of the UCS.                                                                                                                                                                                                                                                             | APA/Contractor | Commissioning<br>Operation                    |
| HR-02 | Any new equipment should have procedures developed for their safe operation to prevent injury to people.                                                                                                                                                                                                                                        | APA/Contractor | All stages                                    |
| HR-03 | Above ground structures will be protected from inadvertent or deliberate acts which may cause damage to the exposed equipment and piping, e.g. fencing to prevent vandalism and barriers to prevent vehicle collision where adjacent to roads.                                                                                                  | APA/Contractor | Pre-construction<br>Construction<br>Operation |
| HR-04 | An update to the existing Safety Management Study for the Culcairn to Wagga Wagga Pipeline will be undertaken to incorporate the UCS in accordance with AS2885, including a Hazard and Operability study. This should include assessment that the pipeline and UCS will have adequate over-pressure and over- and under-temperature protection. | APA/Contractor | Pre-construction                              |
| HR-05 | Implementation of an appropriate asset lifecycle plan for the UCS, which includes site checks and maintenance regimes.                                                                                                                                                                                                                          | APA/Contractor | Pre-construction<br>Construction<br>Operation |

| ID    | Environmental safeguard                                                                                                                                                                                                                | Responsibility | Timing                  |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------|
| HR-06 | Communicate to Origin Energy and neighbouring lots that may be developed in the future the risk of injury to onsite personnel, and implement appropriate safeguards, such as Emergency Response Plans, at the neighbouring facilities. | APA/Contractor | Commissioning Operation |
| HR-08 | Hazardous area nomination, including review of potential ignition sources on site, and selection of appropriately rated electrical equipment to manage the potential ignition sources.                                                 | APA/Contractor | Design                  |

## 6.9 Heritage (Aboriginal)

This section provides a summary of the ACHAR prepared by GHD's heritage sub-consultant OzArk. A full copy of the report is provided in Appendix L.

### 6.9.1 Methodology

A field survey of the proposed site was undertaken with representatives of the Wagga Wagga LALC in order to identify any Aboriginal objects present at the proposed site. The survey revealed that there are no Aboriginal sites within the proposed modification site or surrounding area. An Archaeological Technical Report was initially prepared for the proposed modification based on the outcomes of the field survey.

Pre-lodgement advice was received from NSW Heritage that an ACHAR should be prepared for the proposed modification, which would include consultation with RAPs. A compressed timeframe for development of the ACHAR and consultation with RAPs was endorsed by NSW Heritage, as follows:

- RAPs established for APA's Riverina Storage Pipeline project which overlaps with the UCS site would be utilised for the proposed modification
- Completion of Stage 2 to 4 of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010b) (i.e., Stage 2 - Presentation of information about the proposed modification, Stage 3 – Gathering information about cultural significance and Stage 4 - Review of draft ACHAR) as a combined process.

Consultation with RAPs was undertaken as described in Section 6.9.2 and an ACHAR developed.

The ACHAR has been prepared in accordance with:

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

The methodology for the ACHAR included the following key tasks:

- Survey of proposed site undertaken by a qualified archaeologist and representatives from the Wagga Wagga LALC on 13 September 2023
- Consultation with RAPs, which is currently in progress, with outcomes to be provided at the Response to Submissions phase
- Background research of databases, including:
  - Commonwealth Heritage Listings
  - National Native Title Claims Search
  - Aboriginal Heritage Information Management Systems
  - Wagga Wagga Local Environmental Plan 2010
- Review of previous archaeological studies relating to the proposed site
- Formulating a predictive model for location of cultural sites

- Identifying any Aboriginal objects or Aboriginal heritage values at the proposed site, including any intangible cultural values
- Evaluating survey results
- Developing mitigation measures to reduce any impacts to Aboriginal heritage.

## 6.9.2 Consultation

Consultation with the Aboriginal community has been undertaken in accordance with the requirements of *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010b) and the compressed consultation process approved by NSW Heritage. The RAP group established for the Riverina Storage Pipeline project was utilised for the proposed modification due to the overlap in project areas.

RAPs who registered for the Riverina Storage Pipeline project were consulted on the proposed modification. A letter was issued on 30 May 2025 to notify RAPs of the upcoming consultation for the proposed modification, unless they requested not to be included. One response was received requesting to not be consulted.

Following consultation, a copy of the draft ACHAR will be distributed to RAPs for their review and consideration for a 28 day time period. An updated ACHAR with any submissions received from the RAPs and consultation outcomes will be provided during the Response to Submissions phase.

## 6.9.3 Existing environment

The proposed site is located within the administrative boundaries of the Wagga Wagga LALC on the land of the Wiradjuri people. The proposed site is located in the NSW South Western Slopes Bioregion and has a topography consisting of undifferentiated, flat plains approximately 200 m above sea level.

Desktop database searches show there are no previously recorded Aboriginal sites located within or near the proposed site. The closest site recorded was from the Aboriginal Heritage Information Management System database and located about 900 m northeast of the proposed site.

The field survey found no Aboriginal cultural heritage sites or areas of archaeological sensitivity. The site has high levels of disturbance, which potentially contributes to the low archaeological potential. Further, the Wagga Wagga LALC representatives did not identify any intangible cultural values during the survey.

## 6.9.4 Potential impacts

### Construction

Construction would involve ground disturbing activities being undertaken at the proposed site.

Two primary objectives when managing harm to an Aboriginal object are:

- Impacts to significant Aboriginal objects and places will always be avoided wherever possible
- Where impacts to Aboriginal objects and places cannot be avoided, proposed modifications will be amended to reduce the extent and severity of impacts to significant Aboriginal objects and places using reasonable and feasible measures.

As there are no Aboriginal sites or areas of archaeological sensitivity at the proposed site, no cultural values are anticipated to be diminished by the proposed modification.

### Operation

Impacts on Aboriginal heritage would be limited to construction. No additional impacts are predicted during operation.

## 6.9.5 Mitigation measures

The proposed mitigation measures to reduce impacts to Aboriginal heritage are provided in Table 6.30.

**Table 6.30** Mitigation measures – Heritage (Aboriginal)

| ID    | Environmental safeguard                                                                                                                                                                                                                                                                                                                                                                                 | Responsibility | Timing                    |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------------------|
| AH-01 | Additional consultation with the RAPs is currently being undertaken. On completion of consultation, an updated ACHAR will be prepared. The ACHAR will detail consultation outcomes with RAPs and be submitted during the Response to Submissions phase.                                                                                                                                                 | APA            | Pre-determination         |
| AH-02 | Although no specific Aboriginal heritage is anticipated to be harmed, it is noted that following approval of the modification, Aboriginal cultural heritage will be managed by the policies within a CEMP. The CEMP will include an unanticipated finds protocol and unanticipated skeletal remains protocol in accordance with Requirement 25 of the Code of Practice, as well as heritage inductions. | APA/Contractor | Construction              |
| AH-03 | All land disturbing activities will be confined to within the assessed assessment area. Should the parameters of the proposed work extend beyond the assessment area, then further archaeological assessment will be required by a suitably qualified archaeologist.                                                                                                                                    | APA/Contractor | Construction              |
| AH-04 | All staff and contractors involved in the proposed work will be made aware of the legislative protection requirements for all Aboriginal heritage items.                                                                                                                                                                                                                                                | APA/Contractor | Construction<br>Operation |

## 6.10 Other impacts

This section considers the potential impacts associated with other lower risk environmental issues.

### 6.10.1 Existing environment and potential impacts

Table 6.31 provides the results of the assessment of other potential impacts.

**Table 6.31** Assessment of other potential impacts

| Aspect                  | Existing environment                                                                                                                                                                                                                                                                                                                                                                                                                                        | Potential impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Non-Aboriginal heritage | <p>Searches of local, State and Commonwealth heritage registers did not identify any heritage items on the proposed site or within 1 km of the proposed site. The closest locally listed heritage items are:</p> <ul style="list-style-type: none"> <li>– Wise Grave (Listing No. I298), located about 2.2 km west of the proposed site.</li> <li>– Liquid Explosives Store (Listing No. I287), located about 1.1 km south of the proposed site.</li> </ul> | <p>There are no known non-Aboriginal heritage items on or near the proposed site. The nearest item is located more than 1 km away and unlikely to be impacted by the proposed modification.</p> <p>Construction, operation, and decommissioning of the UCS would involve earthworks and the use of machinery on the proposed site. However, there would be no direct impacts on the heritage items identified.</p> <p>The potential impacts of the modification on non-Aboriginal heritage cultural values in the area is considered negligible.</p> <p>The modification will implement an unexpected finds protocol which will be included in the CEMP.</p> |
| Visual amenity          | The proposed site and surrounding landscape have been historically cleared and are in a degraded condition due to the construction and operation of the existing Uranquinty Power Station and other agricultural uses. The majority of the proposed site contains patchy, species-poor non-native ground cover vegetation. Planted native vegetation is                                                                                                     | Construction of the proposed modification would result in minor visual impacts from the presence of equipment such as vehicles, cranes and other large equipment to develop the UCS. There may also be minor changes to the landscape as a result of vegetation clearance and groundworks where the UCS is to be built during construction. However, the construction activities would last twelve months and                                                                                                                                                                                                                                                |



| Aspect           | Existing environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Potential impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  | <p>present in the north-west corner of the proposed site.</p> <p>The only existing built structures at the proposed site include ancillary infrastructure for the Uranquinty Power Station, which runs along the eastern site boundary. The Uranquinty Power Station is located on the adjacent lot to the east. One waterbody, Sandy Creek, is located approximately 2.3 km from the eastern site boundary. The town of Uranquinty is located approximately 4 km east of the proposed site.</p> <p>Roads near the proposed site include Uranquinty Cross Road to the south and Jacks Road located approximately 1 km east. These roads are available for passersby and visitors to access the town of Uranquinty and nearby towns.</p> <p>No residences or commercial uses were identified within 500 m of the site. The closest residences are located approximately 880 m and 1.1 km south of the proposed site (refer to Figure 1.2).</p> | <p>any changes to visual amenity during construction are considered short term and minor.</p> <p>The closest residences to the proposed site may face some impact to visual amenity during construction works. However, the impact is not anticipated to be significant due to the short-term nature of the works. The nearest road to the site is Uranquinty Cross Road, which is classified as a local road. The visual impact to passersby along the road would be negligible as the works are short term and would not cause a significant or widespread change to the visual landscape of the site and surroundings.</p> <p>The proposed 25-year operation of the UCS would introduce a new structure to a remote area with only a small amount of existing vegetation for the long term. However, there is existing infrastructure, namely the Uranquinty Power Station, located adjacent to the proposed site and partially within the proposed site. Hence, the change in landscape would not bring about a significant impact. The town of Uranquinty and the residential and commercial users within 5 km of the proposed site are expected to experience varying levels of visual impact depending on their distance to the site.</p>                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Waste management | <p>The modification site is largely undeveloped land with minimal existing structures, none of which required removal or demolition.</p> <p>Approximately 1.21 ha non-native vegetation clearing is anticipated for construction of the UCS.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p>Potential waste streams likely to be generated during construction include:</p> <ul style="list-style-type: none"> <li>– Spoil from levelling and compaction.</li> <li>– Organics from vegetation clearing.</li> <li>– Construction consumables, electrical installation offcuts, packaging (plastics and cardboard etc), wooden pallets, scrap metal, timber and ropes.</li> <li>– Putrescible waste e.g., waste food during construction efforts.</li> <li>– Hazardous and non-hazardous wastes e.g., chemical and oil containers, synthetic material fibres, batteries, de-greasing and cleaning agents, fusion-bonded epoxy materials, disinfectants, lubricants (grease and oils).</li> <li>– General construction waste materials e.g., timber sheets and planks, steel sheets and poles, concrete, other miscellaneous building materials.</li> <li>– Administration materials, e.g., paper, cardboard, plastics etc.</li> <li>– Sewage solid waste in portable amenities</li> <li>– Wastewater from vehicle and equipment washdowns.</li> </ul> <p>Operation would generate limited quantities of waste. Waste streams anticipated to be generated during maintenance activities include:</p> <ul style="list-style-type: none"> <li>– Waste oil collected from maintenance of plant and equipment</li> <li>– Small amounts of water from equipment and vehicle washdowns</li> <li>– Sewage waste in amenities</li> <li>– General waste from any packaging from construction consumables and/or administration materials</li> <li>– General construction waste materials</li> <li>– Putrescible waste from food consumed during maintenance efforts.</li> </ul> |

| Aspect             | Existing environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Potential impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cumulative impacts | <p>A search of the NSW Government Major Projects portal was undertaken on 28 April 2025 for any major projects near the proposed site. One notable major project was found through this search, namely the Uranquinty Solar Farm project. The solar farm is proposed to be located at 478 Uranquinty Cross Road, approximately 1.4 km away from the proposed modification site. However, the project has been withdrawn at the time of writing.</p> <p>The SEIA identified nearby projects which will likely have overlapping construction timelines with the proposed modification. HumeLink East and West and Inland Rail Illabo to Stockinbingal will develop temporary housing accommodation facilities for the 1,200 construction workforce required.</p> <p>A search of the City of Wagga Wagga application tracker on 28 April 2024 did not reveal any development applications located on Uranquinty Cross Road from within the last five years.</p> <p>The search found a development application submitted on 1 April 2025 on Jacks Road located about one kilometre northeast from the proposed site for the demolition of existing residential structures. The development application was submitted by Origin Energy</p> | <p>The Uranquinty Solar Farm project has been withdrawn and hence potential cumulative impacts are unlikely.</p> <p>Several regional projects are likely to be constructed either concurrently or consecutively to the proposed modification, including state-significant infrastructure projects. Cumulatively, these projects are likely to generate higher demand for local and regional accommodation. However, the three projects identified with overlapping construction timelines will have temporary accommodation camps built to house their construction workers. These impacts can be effectively managed through the development of a workforce accommodation strategy, which considers existing capacity, maximising local employment, and other regional construction projects and adopting effective monitoring measures.</p> <p>There may be some cumulative traffic, noise, and air quality impacts caused if construction timeframes and haulage routes overlap with the proposed modification and the development application submitted by Origin Energy. However, the construction timeframe for the development application is noted as one week only and hence significant cumulative impacts are considered unlikely to arise.</p> |

## 6.10.2 Mitigation measures

Measures that will be implemented to minimise and manage other potential impacts are provided in Table 6.32.

**Table 6.32** Mitigation measures – other impacts

| ID     | Mitigation measure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Responsibility   | Timing                   |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------------|
| HE-01  | In the event that a site or artefact (as defined by the NSW <i>Heritage Act 1977</i> ) is identified during construction, works will cease at the location. The find will be immediately reported to APA and NSW DCCEEW in accordance with the NSW <i>Heritage Act 1977</i> . No work will recommence within 25 m of the find until any required approval has been granted by NSW DCCEEW.                                                                                                                                                                                                                                                | Contractor / APA | Construction             |
| VA-01  | Light generated during construction and operation will be managed in general accordance with the requirements in <i>Australian Standard AS 4282-1997 Control of the Obtrusive Effects of Outdoor Lighting</i>                                                                                                                                                                                                                                                                                                                                                                                                                            | Contractor / APA | Construction / Operation |
| VA-02  | If noise walls are required, they will be painted in appropriate colouring to minimise potential impacts.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Contractor / APA | Construction / Operation |
| WA -01 | <p>Wastes generated by the proposed modification will be classified and managed in accordance with the <i>Waste Classification Guidelines</i> (NSW EPA, 2014) and the waste minimisation hierarchy principles contained in the <i>Waste Avoidance and Resource Recovery Act 2001</i> as follows:</p> <ul style="list-style-type: none"> <li>– avoidance, where possible</li> <li>– treated, as required and reused on-site</li> <li>– recycled, either within the process or off-site</li> <li>– where other alternatives are not possible, wastes will be disposed of at appropriately licensed waste management facilities.</li> </ul> | Contractor / APA | Construction / Operation |

# 7. Justification of the modification

## 7.1 Introduction

APA's East Coast Gas Grid delivers cost effective, safe and reliable transportation of Australian domestic gas from northern gas producers to southern markets. APA has recently announced a five-year East Coast Gas Grid Expansion Plan to deliver approximately 24 percent increase in north-to-south gas transport capacity and new southern markets storage to help ensure lower cost and lower emissions domestic gas is available to meet East Coast gas demand over the next decade and to support the delivery of new gas-powered generation. The Uranquinty Compressor Station is a key component of Stage 3 which is designed to ensure there is sufficient capacity for domestic gas to supply southern market demand and to avoid the market shortfalls otherwise forecast by the AEMO Gas Statement of Opportunities 2025 (AEMO, 2025) and the ACCC Gas Inquiry 2017-2030 (ACCC, 2024).

The Uranquinty Compressor Station is to increase south bound peak Winter gas transmission capacity from Young to the Victorian Transmission System (via Culcairn). The Uranquinty Compressor Station will also enable free flow of gas in either a southerly direction (to Culcairn) or northerly direction (to Young) within the station and will have provision for a future north compression mode within future stages of the East Coast Gas Grid Expansion Plan.

The selected location of the proposed modification site and the design of the compressor station means that the proposed modification can be undertaken without significant adverse environmental and social impacts to the local community. APA's intention to use local and regional suppliers and businesses where practical means the proposed modification will result in positive economic benefits to the region and NSW.

The NSW community overall will benefit from the proposed modification given that it will assist in meeting the demand of natural gas, especially in the winter months, when the demand is higher. The proposed modification will assist in providing strategic energy security throughout NSW and the wider east coast of Australia by increasing the capacity of the Culcairn to Wagga Wagga Pipeline through operation of UCS.

The proposed modification will also assist in addressing energy supply risks raised in the Gas Statement of Opportunities 2025 (AEMO, 2025), by providing enhanced gas supply infrastructure and increasing capacity of exiting gas infrastructure.

The proposed modification also aligns with Strategy 14.3 in Objective 14 Protecting and promoting industrial and manufacturing land of the *Riverina Murray Regional Plan 2041* (DPE, 2023b), which strive to prevent incompatible land uses near industrial land. The proposed modification will be constructed in an industrial area surrounded by industrial land zoning and Uranquinty Cross Road, which enables APA to deliver UCS while reducing the potential for current and future land use conflicts.

## 7.2 Ecologically sustainable development

The proposed modification has been assessed against the four ecologically sustainable development principles listed in the section 6 of the *Protection of the Environment Administration Act 1991*:

- The precautionary principle.
- The principle of inter-generational equity.
- The principle of biological diversity and ecological integrity.
- The principle of improved valuation of environmental resources.

An assessment of compliance of the proposed modification with these principles is provided below.

### 7.2.1 Precautionary principle

The Precautionary Principle states that “*if there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation*”.

Environmental assessments have been undertaken during the preparation of this Modification Report to assess and understand that the potential environmental impacts.

There are no threats of serious or irreversible environmental damage anticipated by the proposed modification. The proposed modification has been developed to avoid environmental impact where possible, and mitigation measures would be implemented to minimise any unavoidable impacts.

Evaluation and assessment of alternative options have aimed to reduce the risk of significant impacts on the environment. Best available technical information, environmental standards and measures have been used to minimise environmental risks from the proposed modification. These measures would be implemented during both construction and operation of the proposed modification, including the implementation of measures in approved site-specific management plans.

## 7.2.2 Principle of inter-generational equity

The Intergenerational Equity principle states, *“the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations”*.

The proposed modification would not result in impacts that are likely to adversely impact on the health, diversity, or productivity of the environment for future generations. The proposed modification would support the continued supply and compliance of the Culcairn to Wagga Wagga Pipeline for future generations.

## 7.2.3 Principle of biological diversity and ecological integrity

The Principle of Biological Diversity and Ecological Integrity states that the *“that conservation of biological diversity and ecological integrity should be a fundamental consideration”*.

The proposed modification has been designed to minimise impacts to biodiversity to ensure that biological diversity and the ecological integrity of the area will not be significantly impacted. Background research of biodiversity on site was undertaken using online databases, which was verified through site surveys to better inform the avoidance areas for the proposed infrastructure to minimise biodiversity impacts. Measures to minimise biodiversity impacts which would be implemented with the proposed modification include:

- Complete avoidance of the PCT 277 which corresponds to the Critically Endangered Ecological Community Box Gum Woodland listed under the BC Act present on the proposed site.

The full list of mitigation measures which would be implemented to minimise biodiversity impacts are included in Section 6.2.4.

## 7.2.4 Improved valuation, pricing and incentive

The principle of improved valuation, pricing and incentive mechanisms state that *“environmental factors should be included in the valuation of assets and services”*. The cost of environmental resources includes the costs incurred to protect the environment. The mitigation measures imposed to minimise the adverse impacts of this proposed modification would result in economic costs to the construction and operation. This indicates the valuation of environmental resources has been assigned.

The proposed modification has been designed to minimise adverse impacts on the environment by confining work to defined areas and allocating appropriate mitigation measures based on perceived impacts resulting from environmental assessments.

# 7.3 Costs and benefits of the modification

## 7.3.1 Biophysical

The BDAR identified limited extent of impacts at the proposed site. Although a part of the vegetation in the study area corresponds to PCT 277, which is associated with the Box Gum Woodland, a Critically Endangered Ecological Community under the BC Act, the proposed modification would be sited to avoid this area to not impact the PCT on site. The proposed site does not contain important habitat for any migratory species listed under the EPBC Act.

Impacts on threatened species listed under the EPBC Act resulting from the proposed modification have been considered with reference to the *Significant impact guidelines 1.1 Matters of National Environmental Significance* (CoA, 2013). The proposed modification is unlikely to have a significant impact on any threatened or migratory species. Therefore, a referral under the EPBC Act is not required.

### 7.3.2 Economic and social

As per Section 2.2, the AEMO (2025) has identified that future gas supply is predicted to experience shortfalls, which calls for further gas projects to ensure that gas can meet demand and be transported to demand centres. The AEMO recognises that key infrastructure projects, including APA's East Coast Grid Expansion, play an important role in delivering sufficient supply of gas to southern demand centres (AEMO 2025).

The proposed modification is part of Stage 3, which will occur after Stage 2 and supplement existing infrastructure to contribute to meeting gas demand for consumers. The proposed modification will increase the capacity of the Culcairn to Wagga Pipeline and would contribute to a more reliable and long-term gas supply to meet consumer needs.

As discussed in Section 6.6, the proposed modification has potential for economic benefit to the local community through the likely need for local construction service providers, local construction personnel, food and drink vendors, accommodation providers and refuelling services during construction.

### 7.3.3 Environmental justification

A summary of the key findings of the environmental assessments and mitigation measures to support this Modification Report are detailed in Chapters 6 and 7.

This Modification Report demonstrates that the proposed modification has been designed such that impacts are either avoided, or appropriate mitigation measures to minimise unavoidable impacts have been identified. On balance, the proposed modification is justifiable.

## 7.4 Suitability of the selected site

The proposed site location is considered to be suitable for the proposed modification for the following reasons:

- Allows interfacing of the proposed compressor station to the Culcairn to Wagga Wagga Pipeline with the least impact to surrounding land uses.
- Favourable conditions such as ease of access, relatively flat topography and predominantly brownfield nature of the site.
- Availability of the land through existing APA ownership.
- Compatible (industrial zoned) surrounding land.
- Presence of industrial uses in site surrounds, e.g. the Uranquinty Power Station.
- Ecological considerations, with further detail provided in Section 6.3, 7.3.1 and Appendix F.

## 8. Summary and conclusion

East Australian Pipeline Ltd, part of APA, own and operate the Culcairn to Wagga Wagga Pipeline, a lateral pipeline of the Moomba to Sydney Pipeline and a part of APA's East Coast Gas Grid of interconnected gas transmission pipelines. The Culcairn to Wagga Wagga Pipeline is an 88 km natural gas pipeline extending from Wagga Wagga to Culcairn in NSW. The Culcairn to Wagga Wagga Pipeline is operated subject to the conditions of PL23, issued under the Pipelines Act and gazetted as SSI by the SSI-65512969 approval.

The proposed modification to the SSI-65512969 approval will enable the construction and operation of a new compressor station and ancillary infrastructure at the Culcairn to Wagga Wagga Pipeline to increase the pipeline capacity and improve gas supply for users.

GHD has prepared this Modification Report on behalf of APA in accordance with Section 5.25 of the EP&A Act and with regard to the *State significant infrastructure guidelines – preparing a Modification Report* (DPE 2022a). The Modification Report assessed the potential environmental impacts and social and economic benefits of the proposed modification. Mitigation measures will be implemented to avoid or minimise the potential impacts to the environment and local community as a result of the proposed modification. The proposed modification has also been assessed against the principles of ecologically sustainable development and will not cause significant impact to the environment.

It is concluded that the resulting residual environmental impacts are not likely to be significant and offset by the social and economic benefits of this modification. On balance, the proposed modification is considered to be justifiable based on the environmental, social and economic considerations. The proposed modification has strong economic justifications due to the strategic importance of gas and the economic stimulus it will provide locally, regionally and to NSW and Australia as a whole. Contributions to the NSW State and Australian economy will include direct economic activity (e.g., direct employment and wages) and expenditure on materials that can be sourced from Australia and NSW.



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# Appendices

# **Appendix A**

**Updated project description**

Table A.1 Proposed modification comparison table

| Project element         | Summary of the approved project                                                                                                                                                                                                                                                                                                                                                                          | Summary of the proposed modification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Reference                   |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>General</b>          |                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                             |
| Description             | <p>Construction and operation of a compressor station including:</p> <ul style="list-style-type: none"> <li>– Compressor unit</li> <li>– Gas filters/separators</li> <li>– Gas metering system</li> <li>– Air cooled heat exchangers</li> <li>– Control building housing the automated control systems and communications</li> <li>– Security fences</li> <li>– Access and support facilities</li> </ul> | <p>Construction and operation of a new, electric driven compressor station and associated structures, including:</p> <ul style="list-style-type: none"> <li>– An electric driven compressor unit</li> <li>– Lubricating oil system (inclusive of lube oil cooler)</li> <li>– Compressor inlet / scrubber</li> <li>– Air cooled heat exchangers</li> <li>– Electrical house for high voltage switchgear</li> <li>– Variable Frequency Drive</li> <li>– Variable Frequency Drive cooler</li> <li>– Isolation transformer</li> <li>– Air compressors and receivers</li> <li>– Associated piping, electrical equipment, instrumentation and controls</li> <li>– Station attenuated vent</li> <li>– Control building housing the automated control systems and communications</li> <li>– Back up diesel generator</li> <li>– Septic tank system</li> <li>– Security fences</li> <li>– Access and support facilities.</li> </ul> | Section 3                   |
| Location                | Between 1,500 – 3,500 m along the pipelines route west from the town of Uranquinty.                                                                                                                                                                                                                                                                                                                      | Lot 781 DP 878179 at the address 302 Uranquinty Cross Road, Uranquinty.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Section 2.1.1<br>Figure 1.2 |
| <b>Construction</b>     |                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                             |
| Construction footprint  | N/A                                                                                                                                                                                                                                                                                                                                                                                                      | 4.6 ha wholly contained within Lot 781 DP 878179.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Section 3.2,<br>Figure 3.1  |
| Construction activities | N/A                                                                                                                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>– Site preparation, including: <ul style="list-style-type: none"> <li>• Mobilise construction equipment.</li> <li>• Clear vegetation (as required)</li> </ul> </li> <li>– Construction of UCS, including: <ul style="list-style-type: none"> <li>• Site bulk earthworks including excavation for buried services and cut/fill to establish levels for infrastructure installation.</li> <li>• Install steel piles.</li> <li>• Install associated steel structures, prefabricated piping, electrical equipment and instrumentation.</li> <li>• Supply and install communication and controls infrastructure.</li> <li>• Pre-commissioning and commissioning of UCS.</li> </ul> </li> </ul>                                                                                                                                                                                           | Section 3.2                 |



| Project element        | Summary of the approved project | Summary of the proposed modification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Reference                     |
|------------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
|                        |                                 | <ul style="list-style-type: none"> <li>Demobilisation of construction equipment.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                               |
| Temporary facilities   | N/A                             | <ul style="list-style-type: none"> <li>Implement construction erosion and sediment controls.</li> <li>Establish construction compounds / work areas and associated internal roads and ramps to facilitate access to work areas.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Section 3.2.5                 |
| Utilities              | N/A                             | <ul style="list-style-type: none"> <li>Establish power and other utilities to the proposed site. APA are looking into an extension of an existing line or a new feeder for an electricity network connection with Essential Energy.</li> <li>Water supply will be provided by the Riverina Water main adjoining one edge of the site. Firefighting water supply will be provided through a reticulated supply system or water supply tank.</li> </ul>                                                                                                                                                                                                                                             | Section 3.2.1, 1.3.1, 6.7.2.1 |
| Construction workforce | N/A                             | <ul style="list-style-type: none"> <li>40 full-time equivalent personnel, with a peak of 65 FTE personnel over the 15-month construction and commissioning period.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Section 3.2.3                 |
| Rehabilitation         | N/A                             | <ul style="list-style-type: none"> <li>Rehabilitation of temporary disturbance areas back to their original state including reinstating topsoil and vegetation as required.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Section 3.4                   |
| <b>Operation</b>       |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                               |
| Operational footprint  | N/A                             | 4.6 ha wholly contained within Lot 781 DP 878179                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Figure 3.3                    |
| Operation activities   | N/A                             | <p>Operational activities include:</p> <ul style="list-style-type: none"> <li>Remote operation of the compressor station up to 24 hours per day, seven days per week intermittently based on gas demand, which is expected to be approximately three months per year</li> <li>Routine or ad hoc maintenance activities during daylight hours unless an emergency requires work to be carried out at night. Maintenance operations may include: <ul style="list-style-type: none"> <li>Minor maintenance (testing, cleaning, equipment performance checks).</li> <li>Systems assessment, along with calibrations and adjustments where necessary.</li> <li>Equipment repair</li> </ul> </li> </ul> | Section 3.3.1                 |

# **Appendix B**

## **Consolidated mitigation measures table**

**Table B.1 Consolidated mitigation measures**

| ID                         | Environmental safeguard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Responsibility   | Timing       |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------|
| <b>Noise and vibration</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |              |
| NV-1                       | Noise generated by any construction, upgrading or decommissioning activities will be minimised in accordance with the best practice requirements outlined in the Interim Construction Noise Guideline (DECC, 2009), or its latest version.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | APA / Contractor | Construction |
| NV-2                       | <p>An environmental induction will be provided to all employees, contractors and subcontractors entering site. The induction will include, but is not limited to:</p> <ul style="list-style-type: none"> <li>– all relevant project specific and standard noise and vibration mitigation measures</li> <li>– relevant licence and approval conditions</li> <li>– permissible hours of work</li> <li>– location of nearest sensitive receivers</li> <li>– construction employee parking areas</li> <li>– designated loading/unloading areas and procedures</li> <li>– site opening/closing times (including deliveries)</li> <li>– environmental incident procedures.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                | APA / Contractor | Construction |
| NV-3                       | <p>Activities on site will be undertaken as per the approved CEMP and only during the proposed construction hours. The proposed modification construction hours are:</p> <ul style="list-style-type: none"> <li>– Monday to Friday: 7am to 6pm</li> <li>– Saturday: 7am to 6pm</li> <li>– Sunday and/or Public Holidays: 7am to 6pm.</li> </ul> <p>With the exception of the following circumstances:</p> <ul style="list-style-type: none"> <li>– emergency work to avoid the loss of life, property and/or material harm to the environment</li> <li>– Where police or other authorities determine that the delivery of oversized plant or structures require special arrangements to transport along public roads, these deliveries could be undertaken outside of the recommended standard hours to minimise impacts on the community.</li> <li>– where a negotiated agreement has been reached with affected receivers.</li> </ul> <p>High noise generating works (i.e. piling works) will only be conducted during the ICNG recommended standard construction hours.</p> | APA / Contractor | Construction |
| NV-4                       | <p>The following requirements will be implemented to manage potential noise impacts during outside of the recommended standard hours:</p> <ul style="list-style-type: none"> <li>– Where reasonable and feasible, restrict construction works that are predicted to exceed the NMLs outside of standard hours at nearby receivers to standard construction hours only.</li> <li>– Where works are required out of hours, and where reasonable and feasible, only undertake 'low impact noise activities' outside of standard hours. This is defined as construction activities that cause <math>L_{Aeq,15min}</math> noise levels of no more than 5 dB(A) above the RBL for that period.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                            | APA / Contractor | Construction |
| NV-5                       | <p>The following community consultation and notification will be undertaken:</p> <ul style="list-style-type: none"> <li>– Provide at least 7 days' notice to the identified receivers prior to starting work, unless it is emergency works or it is discussed with the affected receivers face-to face. The notification would likely be in the form of a letter, including the following information: a description of the works and why they are being undertaken <ul style="list-style-type: none"> <li>• details of the works that will be noisy</li> <li>• work hours and expected duration</li> <li>• what is being done to minimise the impacts</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                  | APA / Contractor | Construction |

|       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                  |              |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------|
|       | <ul style="list-style-type: none"> <li>• 24-hour contact number</li> <li>• maintain good communication between the community and staff.</li> </ul> <p>This may include a local community update letter for specific construction activities and a project info line.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |              |
| NV-6  | <p>Complaints will be managed in accordance with the procedure outlined below. Signage at each site will clearly and visibly provide a contact number and name to receive complaints and enquiries about construction.</p> <p>Potential complaints specific to these works could include:</p> <ul style="list-style-type: none"> <li>– noise impacts from works that significantly affect the identified receivers.</li> <li>– a cluster of noise and/or vibration complaints.</li> </ul> <p>In this instance the response would be to:</p> <ul style="list-style-type: none"> <li>– verbally respond to complainant</li> <li>– provide a written response within seven calendar days if the complaint cannot be resolved verbally</li> <li>– log the complaint, and any actions taken with regards to the complaint within a complaints register</li> <li>– undertake monitoring at the complainant's residence(s)</li> <li>– investigate the nature and reasons of the impact</li> <li>– investigate and implement further mitigation measures to minimise the impact.</li> </ul> | APA / Contractor | Construction |
| NV-7  | <p>Quieter and less vibration emitting construction methods will be used where reasonable and feasible, with only the necessary size and power to be used. The noise levels of plant and equipment will have an operating Sound Power Level lower or similar to the levels presented in Table 2.2 of the noise and vibration impact assessment prepared by GHD.</p> <p>Broadband reversing alarms will be used in preference to 'beeper' reversing alarms on construction vehicles and machinery.</p> <p>Where vibratory rollers are required during construction, the size of the rollers must be less than 18 tonnes to achieve the safe working distances detailed in Table 2.11 of the noise and vibration impact assessment prepared by GHD.</p>                                                                                                                                                                                                                                                                                                                               | APA / Contractor | Construction |
| NV-8  | <p>Where compliance with the road traffic noise criteria in the RNP is unable to be achieved, reasonable and feasible noise mitigation and management measures will be included in the construction noise and vibration management plan, including:</p> <ul style="list-style-type: none"> <li>– reducing heavy vehicle speeds on Uranquinty Cross Road</li> <li>– managing driver behaviour via inductions, toolbox talks and minimise the use of engine compression brakes</li> <li>– minimising peak hour heavy vehicle movements on local roads where practicable</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | APA / Contractor | Construction |
| NV-9  | <p>The sound power levels of the operational equipment should be equal or lower than those presented in Table 2.21 of the noise and vibration impact assessment.</p> <p>Should one-third octave band noise data for plant and equipment become available during further detailed design of the site, this should be incorporated into the noise model to assess the potential for tonal or low frequency noise characteristics. This would identify potential mitigation requirements to ensure compliance with the project noise trigger levels.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | APA              | Operation    |
| NV-10 | <p>Within 12 months of commissioning of the proposed modification, a noise validation assessment would be undertaken and include, but not be limited to:</p> <ul style="list-style-type: none"> <li>– At-source measurements of the equipment to confirm overall and one-third octave band noise levels.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | APA              | Operation    |

|       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |           |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------|
|       | <ul style="list-style-type: none"> <li>Noise monitoring at the most-affected receivers or an intermediate location to quantify noise levels from the proposed modification at distance and will be undertaken in accordance with the methodology outlined in Approved methods for the measurement and analysis of environmental noise in NSW (EPA, 2022).</li> <li>Assessment of the measured operational noise levels against the PNTL of 35 dBA LAeq,15min and include an assessment for annoying characteristics as defined in Fact Sheet C of the NPfI.</li> <li>Reporting of the findings to show if the site complies with the PNTLs and identify whether mitigation measures are required to reduce noise levels to comply with the PNTLs.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |           |
| NV-11 | The operational noise validation assessment would be carried out by a suitably qualified noise specialist. Records of routine equipment calibration and testing would be maintained by the qualified noise specialist undertaking the assessment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | APA | Operation |
| NV-12 | <ul style="list-style-type: none"> <li>All equipment should be properly maintained in accordance with the manufacturer's specifications.</li> <li>All equipment should be operated in the appropriate manner.</li> <li>Where noisy maintenance is required, it should be scheduled to occur during periods when receivers are less sensitive, such as during the daytime.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | APA | Operation |
| NV-13 | <p>Complaints regarding situations where noise emission levels are perceived by residents to be a problem will be managed in accordance with the APA's community grievance, complaint and feedback guidelines and procedure.</p> <p>The complaints management process will include:</p> <ul style="list-style-type: none"> <li>Receive and record details of the complaint.</li> <li>Acknowledge receipt of complaint with complainant.</li> <li>Screen the category and type of complaint.</li> <li>Investigate complaint and inform complainant of investigation status.</li> <li>Resolve/mitigate the complaint with appropriate corrective actions, within agreed timeframes.</li> <li>A site manager will investigate to determine the possible source of the noise.</li> <li>Should a problem noise source be identified, the method of operation is to be altered or controlled where reasonable and feasible.</li> <li>If required, noise monitoring at the complainant's property will be undertaken if the complainant is not satisfied with the corrective action.</li> <li>Any corrective action is to be recorded and reported to the site manager, who is to keep a record of all actions.</li> <li>The site manager will be informed of any complaint and details must be recorded in a complaints register.</li> </ul> <p>The site manager will notify potentially affected receivers if observations indicate that the noise criteria is being exceeded due to activities carried out on site. The affected receivers will be notified of exceedances and the source of the impact in writing within 48 hours of detection and verification.</p> | APA | Operation |
| NV-14 | <p>Where compliance noise monitoring is undertaken in response to complaints, the noise monitoring will be undertaken with the following considerations:</p> <ul style="list-style-type: none"> <li>Monitoring would be carried out by a suitably qualified noise specialist. records of routine equipment and testing would be maintained by the qualified noise specialist undertaking the assessment.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | APA | Operation |

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                          |                                  |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|----------------------------------|
|                     | <ul style="list-style-type: none"> <li>Monitoring would be undertaken at the most critical time of day near the complainant and near the identified source of the impact.</li> <li>The prevailing meteorological conditions during the monitoring will be noted.</li> <li>A report will be prepared detailing the findings of the compliance noise monitoring in accordance with the requirements provided in the NPfI.</li> </ul>                                                                                                                                                                                                                                                |                          |                                  |
| <b>Biodiversity</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                          |                                  |
| BI-01               | Flora and fauna management controls will be included within the CEMP. It would include measures, processes, and responsibilities to minimise the potential for biodiversity impacts during construction and operation of the UCS. Including measures provided in Table 9.5 of Appendix F.                                                                                                                                                                                                                                                                                                                                                                                         | APA/Contractor Ecologist | Pre-construction                 |
| BI-02               | All workers will be provided with an environmental induction prior to starting work on site. This would include information on the biodiversity values of the site, protection measures to be implemented to protect native biota and penalties for breaches.                                                                                                                                                                                                                                                                                                                                                                                                                     | APA/Contractor Ecologist | Construction                     |
| BI-04               | Plans will be prepared showing areas to be cleared and areas to be protected, including exclusion zones and protected habitat features in the vicinity of work areas.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | APA/Contractor Ecologist | Pre-construction                 |
| BI-05               | Prior to the commencement of any work in or adjoining areas of native vegetation, including planted native vegetation, a survey will be carried out to mark the construction impact boundary. The perimeter of this area will be fenced using high visibility fencing and clearly marked as the limits of clearing. All vegetation outside this fence line will be clearly delineated as an exclusion zone to avoid unnecessary vegetation and habitat removal and the transmission of weeds or disease. Fencing and signage will be maintained for the duration of the construction period. Fencing will be designed to allow fauna to exit the site during clearing activities. | APA/Contractor Ecologist | Pre-construction<br>Construction |
| BI-06               | An unexpected finds protocol will be included in the CEMP to manage threatened flora and fauna not previously recorded on site are detected during clearing or construction activities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Ecologist                | Construction                     |
| BI-07               | <p>Protocols for the management of fauna and habitats will be included in the CEMP. These will include (if required):</p> <ul style="list-style-type: none"> <li>salvage of woody debris where practicable</li> <li>management of any trenches or excavation sites to prevent fauna from becoming trapped or injured.</li> </ul>                                                                                                                                                                                                                                                                                                                                                  | APA/Contractor Ecologist | Construction                     |
| BI-08               | <p>All machinery entering the site will be appropriately washed down and disinfected prior to work on site to prevent the potential spread of weeds and disease.</p> <p>Protocols to prevent introduction or spread of chytrid fungus will be implemented following the <i>NSW hygiene guidelines for wildlife</i> (DPIE 2020).</p>                                                                                                                                                                                                                                                                                                                                               | APA/Contractor Ecologist | Construction                     |
| BI-09               | <p>Declared priority weeds will be managed according to requirements of the <i>NSW Biosecurity Act 2015</i>.</p> <p>Soil material and stripped groundcover vegetation with the potential to contain priority weeds will not be removed from the study area unless if the soil material is being transported to a suitably licensed waste facility. Soil disturbance would be avoided as much as possible to minimise the potential for spreading weeds.</p>                                                                                                                                                                                                                       | APA/Contractor Ecologist | Construction                     |
| BI-10               | Erosion and sediment control measures will be established prior to construction in accordance with the principles and guidelines included in <i>Managing Urban Stormwater: Soils and Construction – Volume 1</i> (Landcom, 2004).                                                                                                                                                                                                                                                                                                                                                                                                                                                 | APA/Contractor Ecologist | Pre-construction<br>Construction |
| BI-11               | Erosion and sediment controls throughout the site will be inspected regularly and maintained to ensure they are operating effectively.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Contractor               | Construction                     |

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                |                        |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------|
| BI-12           | Stockpiles of fill or vegetation will be placed within existing cleared areas (and not within areas of adjoining native vegetation).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Contractor     | Construction           |
| BI-13           | Appropriate speeds for all construction and contractor vehicles will be enforced to limit dust generation and minimise chances of fauna mortality through vehicle strike throughout the construction and during operational use of the compressor station.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | APA/Contractor | Construction Operation |
| BI-14           | Light generated during construction will be managed in general accordance with the requirements in AS 4282-1997 Control of the Obtrusive Effects of Outdoor Lighting.<br>Directional lighting will be used to minimise the effects of light spill outside the compressor station as far as possible.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | APA/Contractor | Construction Operation |
| BI-15           | Activities on site will be undertaken as per the approved CEMP and only during the proposed construction hours. The proposed modification construction hours are:<br><ul style="list-style-type: none"> <li>Monday to Friday: 7am to 6pm</li> <li>Saturday: 7am to 6pm</li> <li>Sunday and/or Public Holidays: 7am to 6pm</li> </ul> With the exception of the following activities:<br><ul style="list-style-type: none"> <li>The delivery of materials as requested by the NSW Police Force or other authorities for safety reasons; emergency work to avoid the loss of life or damage to property, or to prevent environmental harm.</li> <li>Emergency work to avoid the loss of life, property and/or material harm to the environment.</li> <li>Works as approved through the out-of-hours works protocol as approved through the CEMP.</li> </ul> Additional, specific controls will be included within the CEMP and will consider the project specific management measures outlined in the Noise and Vibration Impact Assessment (Appendix D). | APA/Contractor | Construction Operation |
| BI-16           | Specific measures will be incorporated into the CEMP to minimise the potential for chemical spills and associated impacts on natural environments adjacent to and downstream of the areas of impact.<br>Spill kits will be made available to construction vehicles. A management protocol for accidental spills will be put in place. Chemicals will be stored in bunded areas.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | APA/Contractor | Construction Operation |
| BI-17           | The site will be fully rehabilitated following decommissioning of the UCS at the end of project life. A rehabilitation strategy will be prepared to guide rehabilitation planning, implementation, monitoring and maintenance of the disturbed areas.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | APA/Contractor | Decommissioning        |
| <b>Bushfire</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                |                        |
| BF-01           | A Bush Fire Emergency and Evacuation Management Plan must be prepared addressing site evacuation in response to bushfire alerts and/or local reporting of bushfire threats, as per the following:<br><ul style="list-style-type: none"> <li><i>A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan</i> (NSW RFS)</li> <li><i>Australian Standard AS 3745:2010 Planning for emergencies in facilities.</i></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | APA/Contractor | Pre-construction       |
| BF-02           | For temporary portable site office/amenity facilities during construction: APZ extending not less than 36 m from the external perimeter of temporary accommodation buildings.<br>For permanent operations office/amenities and workshop buildings: APZ extending not less than 20 m from the external perimeter of temporary accommodation buildings (constructed to BAL 12.5).<br>Permanent office and amenities buildings and workshop are all to be constructed to BAL 12.5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | APA/Contractor | Detailed design        |
| BF-03           | The vehicular access into the site from Uranquinty Cross Road to be designed and constructed in accordance with Appendix 3 of <i>Planning for Bushfire Protection 2019</i> (NSW RFS, 2019).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | APA/Contractor | Detailed design        |



|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                |                                     |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------------------|
| BF-04                           | For water services, it is preferred that mains water supplied hydrant system compliant to AS 2419.1:2019 and alternatively a 20,000 L firefighting water supply tank to be provided on-site.<br><br>Any electrical services from the on-site power supply and any electrical services from the overhead mains supply point are to be underground.                                                                                                                                                                                                                                                                                                                                                                                                                          | APA/Contractor | Detailed design<br>Pre-construction |
| <b>Air quality</b>              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                |                                     |
| AQ-01                           | The CEMP will include measures to minimise the potential for impacts on air quality, particularly in relation to dust, and include mitigation measures in Table 5.1 of Appendix G.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | APA/Contractor | Pre-construction<br>Construction    |
| AQ-02                           | Vehicles, plant and equipment used on site (including generators) will:<br><ul style="list-style-type: none"> <li>– comply with appropriate standards</li> <li>– not be used where they produce excessive emissions (based on a visual assessment) until service/maintenance can be undertaken to return them to normal working order</li> <li>– be turned off when not in use and not left to idle for prolonged periods</li> <li>– be regularly maintained in accordance with manufacturers specifications.</li> </ul>                                                                                                                                                                                                                                                   | APA/Contractor | All stages                          |
| AQ-03                           | Vehicular speeds onsite will be limited to <20 km/hr and vehicle movements will be restricted to designated access tracks to minimise dust lift-off from roads.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | APA/Contractor | All stages                          |
| <b>Greenhouse gas emissions</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                |                                     |
| GG-01                           | Use of B10, renewable or biodiesel fuels for trucks and vehicles where economic and/or feasible.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | APA/Contractor | All stages                          |
| GG-02                           | <ul style="list-style-type: none"> <li>– Implementation of efficiency in plant and equipment operations to reduce greenhouse gas emissions by:</li> <li>– Planning commute and efficient transportation of materials and people.</li> <li>– Material handling will be efficiently scheduled and planned to minimise fuel consumption.</li> <li>– Services and materials (aggregates etc.) will be sourced locally, where practicable.</li> <li>– Plant and equipment will be maintained in good condition to minimise ignition risk, fuel consumption, spills and air emissions that may cause nuisance.</li> <li>– Plant, equipment, and vehicle engines will be switched off when not in use.</li> </ul>                                                                 | APA/Contractor | All stages                          |
| GG-03                           | The frequency of compressor blowdowns will be planned and optimised.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | APA/Contractor | All stages                          |
| GG-04                           | Leak detection and repair will occur as required to address fugitive emissions from the compressor and related infrastructure.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | APA/Contractor | All stages                          |
| <b>Traffic and transport</b>    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                |                                     |
| TT 01                           | A Traffic Management Plan will be prepared as part of the CEMP. The Traffic Management Plan will outline strategies to:<br><ul style="list-style-type: none"> <li>– Manage vehicular traffic movement associated with the modification, including heavy vehicles</li> <li>– Minimise the impact of site-generated vehicle traffic on the operation of the adjoining road network, including impacts to other road users (including cyclists and pedestrians) via the following measures: <ul style="list-style-type: none"> <li>• Logistics management shall be controlled by the site supervisor to ensure the efficient movement of equipment and materials and to minimise the number of trips that will need to be taken for all vehicle types.</li> </ul> </li> </ul> | APA/Contractor | Pre-construction<br>Construction    |

|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |                                  |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------------|
|                                    | <ul style="list-style-type: none"> <li>• Carpooling opportunities for personnel sharing accommodation or living in close proximity to one another shall be utilised where feasible.</li> <li>• All vehicles shall comply with road traffic rules, particularly for any local traffic rules.</li> <li>• Adherence to assessed transport routes and speed limits.</li> </ul> <p>– Facilitate the continuous, safe, and efficient travel of workers, contractors, and the general public.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                |                                  |
| TT 02                              | <p>Heavy vehicle access measures will include:</p> <ul style="list-style-type: none"> <li>– Key stakeholders, including owners/operators of adjacent lands and emergency service providers, shall be notified of any changes to the traffic management arrangements prior to the commencement of works. Coordination and approval with the owners of the access roads (if an external party) shall be secured prior to the commencement of works.</li> <li>– Truck drivers shall be directed to follow the predetermined haulage routes. Additionally, all drivers must observe posted speed limits on adjoining road networks to comply with Australian road rules. Drivers are to adjust speeds to suit the road environment and weather conditions appropriately to ensure the safe movement of the vehicles based on the individual vehicle configurations.</li> <li>– Oversized or overweight loads shall be transported in accordance with the requirements of the relevant road authority.</li> <li>– A turnaround facility that can accommodate the largest vehicle entering the site shall be provided to allow all vehicles to exit the site in a forward direction, with vehicles to also enter in a forward direction</li> </ul> | APA/Contractor | Pre-construction<br>Construction |
| TT 03                              | <p>Safety measures will include:</p> <ul style="list-style-type: none"> <li>– All staff and subcontractors engaged on site shall be required to undergo site induction. The induction shall outline the requirements on the Traffic Management Plan, including site access routes, environmental and occupational health and safety responsibilities, emergency procedures, potential carpooling opportunities and vehicle height and mass restrictions, among others. Additionally, the Site Manager will discuss Traffic Management Plan requirements regularly as a part of regular “toolbox talks”.</li> <li>– Access for emergency vehicles shall be maintained at the site during the construction works, in accordance with emergency vehicle requirements. The emergency services, including fire, ambulance and police, shall be advised of all planned changes to traffic arrangements prior to the commencement of works.</li> </ul>                                                                                                                                                                                                                                                                                              | APA/Contractor | All stages                       |
| <b>Socio-economic and land use</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |                                  |
| SO-01                              | <p>APA will prepare an Accommodation Strategy, which will propose measures to ensure there is sufficient accommodation for the construction workforce associated with the proposed modification. The strategy will:</p> <ul style="list-style-type: none"> <li>– Prioritise sourcing workers from within the local or regional study areas to reduce non-residential worker influx.</li> <li>– Provide an updated summary of the social and economic characteristics for the local or regional study areas, and any other towns and/or suburbs as they apply to the accommodation requirements of the proposed modification.</li> <li>– Assess workforce accommodation requirements and the feasibility of utilising rental accommodation, short-term accommodation providers, non-traditional accommodation providers (i.e. AirBnB), and utilising temporary workforce accommodation camps in agreement and discussion with operators (refer to Section 5.3.3 of the SEIA).</li> </ul>                                                                                                                                                                                                                                                      | APA            | Pre-construction<br>Construction |

|       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                |                               |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------------|
|       | <ul style="list-style-type: none"> <li>– Consider options to partner with other proponents in the region to utilise their workforce accommodation camps as recommended during SEIA consultation undertaken by GHD in 2025.</li> <li>– Consider the cumulative impacts associated with other State significant development projects in the area, at the same time giving consideration to maximise benefits for local businesses.</li> <li>– Include a program to monitor and review the effectiveness of the strategy throughout the construction phase, including regular monitoring and review.</li> </ul> <p>Where other proponent's projects are included in the Accommodation Strategy to assess the cumulative socio-economic impacts associated with workforce accommodation requirements in the region, they will be screened in relation to APA's proposed modification, based on their nature, size, known timeframes, and proximity to the proposed modification site.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                |                               |
| SO-02 | <p>A number of workforce management strategies would be implemented to promote the health, safety and wellbeing of the proposed modification workforce as well as managing potential impacts on local communities. APA's overall approach to workforce management will include:</p> <ul style="list-style-type: none"> <li>– Behaviour management at all times during the course of work through the use and implementation of a Code of Conduct that is applicable to all employees, contractors, subcontractors and consultants working on the proposed modification. The Code of Conduct will be linked to employee contract conditions.</li> <li>– Comply with workplace health and safety requirements outlined in the Modification Report and other technical studies.</li> </ul> <p>These will be implemented in accordance with APA's systems and processes and relevant legislated requirements.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | APA/Contractor | Pre-construction construction |
| SO-03 | <p>APA will prepare an overarching Community Engagement Plan to guide the management and delivery of community and stakeholder engagement in the lead up to and during construction to ensure that:</p> <ul style="list-style-type: none"> <li>– Accurate and accessible information about the proposed modification is provided</li> <li>– Feedback from the community is encouraged</li> <li>– Opportunities for input are provided</li> <li>– Community members and stakeholders with the potential to be affected by worker influx and accommodation are notified in a timely manner about the timing of activities and potential for impacts</li> <li>– Enquiries and complaints are managed, and a timely response is provided for concerns raised.</li> </ul> <p>The plan will include approaches and protocols to:</p> <ul style="list-style-type: none"> <li>– Communicate with potentially affected residents, other community members, businesses and other key stakeholders to provide information about the proposed modification, and the likely nature, extent and duration of changes</li> <li>– Identify and engage with vulnerable persons that might be affected by the proposed modification</li> <li>– Communicate information about potential access changes</li> <li>– Share information about the proposed modification with other regional stakeholders to assist with managing cumulative impacts on local and regional communities.</li> </ul> <p>An enquiries and complaints management system will be developed, outlined in the Community Engagement Plan, and implemented during all phases of the proposed modification. The complaints management systems will be maintained throughout the construction, operation and decommissioning and rehabilitation period.</p> | APA            | Pre-construction Construction |

| Surface water, groundwater and soil assessment |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                               |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------------------------------|
| SW-01                                          | <p>Preparation and implementation of a site-specific Soil and Water Management Plan, underpinned by an Erosion and Sediment Control Plan, in accordance with the “Blue Book” (Landcom, 2004) and IECA (2008) during the construction and operational phases to minimise downstream surface water quality impacts and flood risks, to include the following as a minimum:</p> <ul style="list-style-type: none"> <li>– implementation of all reasonable and practicable measures needed to protect downstream waters from the adverse effects of sediment and turbid water discharge</li> <li>– bunding and covering of site areas containing potential contaminants (such as fuel, oil, grease and chemicals) in accordance with <i>Australian Standard AS1940: The storage and handling of flammable and combustible liquids</i> to prevent contamination of stormwater runoff, with offsite disposal of captured water/contaminants</li> <li>– prevention of minimisation of soil erosion rather than allowing erosion to occur and relying on sediment control measures to trap and contain sediment and turbid runoff</li> <li>– ensuring all reasonable and practical measures to protect downstream water users and properties from the adverse effects of sediment and turbid water discharges</li> <li>– ameliorating soils by the incorporation of gypsum into the soil at rates determined by site-specific soil testing</li> <li>– implementing 10 m buffer distances of construction works from waterways</li> <li>– stabilising hardstand areas by gravel sheeting or concreting, and stabilised or strengthened where required</li> <li>– progressively rehabilitating and stabilising disturbed areas after construction that are no longer required in operations.</li> </ul> | APA/Contractor   | Pre-construction<br>Construction<br>Operation |
| SW-02                                          | Implementation of slope design and stabilisation rules guided by material erosion and agronomic characterisation of the site soils for all cut and fill works.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | APA/Contractor   | Pre-construction<br>Construction              |
| SW-03                                          | Scheduling of major land disturbance works to avoid periods of high wind, where practicable, and adjusting erosion and sediment control measures during adverse weather to minimise downstream water quality impacts.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | APA/Contractor   | Construction                                  |
| SW-04                                          | <p>Design of site drainage, installation of water management structures, and rehabilitation to include the following measures:</p> <ul style="list-style-type: none"> <li>– maximising sheet flow where possible</li> <li>– minimising the construction of diversion drains, channels and table drains as much as possible and where practicable</li> <li>– using organic and woody wastes from vegetation clearing for soil erosion protection purposes on stockpiles and rehabilitated areas.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | APA / Contractor | Pre-construction<br>Construction              |
| SW-05                                          | Weekly inspection of erosion and sediment controls throughout the proposed site during construction to ensure they are operating adequately.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | APA / Contractor | Construction                                  |
| SW-06                                          | Installation and maintenance of sediment basins or alternative sediment control measures where required, based on detailed site construction staging and site-specific CEMP documentation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | APA / Contractor | Construction                                  |
| SW-07                                          | Regular monitoring and maintenance of bunding and spill containment measures for hazardous materials storage areas to prevent any potential contamination of surface and groundwater.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | APA / Contractor | Construction<br>Operation                     |
| SW-08                                          | Storage and handling of potential land contaminants (fuel, oil, grease, and other chemicals) in accordance with <i>Australian Standard AS1940: The storage and handling of flammable and combustible liquids</i> within bunded area to prevent contamination of stormwater runoff.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | APA / Contractor | Construction<br>Operation                     |

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|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------------------------------|
| SW-09                   | Undertaking of works according to standard operating procedures to avoid accidental spills of fuel, oil and grease and other chemicals.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | APA / Contractor | Construction Operation                        |
| SW-10                   | Provision of spill kits at appropriate locations for the management of accidental spills of fuels, oil and grease.<br>Routine visual monitoring and recording of chemicals and fuel storage facilities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | APA / Contractor | Construction Operation                        |
| SW-11                   | Management of soil contaminated with accidental fuel and oil spills and grease either within the proposed site or by transporting it off site to licensed facilities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | APA / Contractor | Construction Operation                        |
| SW-12                   | Appropriate use of water for dust suppression so usage does not contribute to excess runoff or water quality degradation, applying water efficiency measures and sourcing water sustainably.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | APA / Contractor | Construction Operation                        |
| SW-13                   | Review of the flood assessment (and undertake remodelling as appropriate) in the event of a discrepancy between the flood assessment and the observations within the proposed site.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | APA / Contractor | Operation                                     |
| SW-14                   | Implementation of a rehabilitation strategy to guide progressive rehabilitation planning, implementation, monitoring and maintenance of disturbed areas outside of the operational footprint, with defined objectives comprising:<br>landscaping and re-vegetating using native woodland and understorey species.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | APA / Contractor | Construction Operation                        |
| SW-15                   | Implementation of a rehabilitation strategy to guide the life of the project rehabilitation of the proposed site after 25 years with the following objectives:<br><ul style="list-style-type: none"> <li>– creating a final landform that will: <ul style="list-style-type: none"> <li>• be safe, hydraulically stable and non-polluting</li> <li>• integrate with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land</li> </ul> </li> <li>– re-vegetating rehabilitation areas using native woodland and understorey species.</li> <li>– undertaking rehabilitation as soon as reasonably practicable following disturbance to ensure minimisation of the total area exposed at any time.</li> </ul> | APA / Contractor | Construction Operation                        |
| <b>Hazards and risk</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                  |                                               |
| HR-01                   | An operating and control philosophy will be development for the operation of the UCS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | APA/Contractor   | Commissioning Operation                       |
| HR-02                   | Any new equipment should have procedures developed for their safe operation to prevent injury to people.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | APA/Contractor   | All stages                                    |
| HR-03                   | Above ground structures will be protected from inadvertent or deliberate acts which may cause damage to the exposed equipment and piping, e.g. fencing to prevent vandalism and barriers to prevent vehicle collision where adjacent to roads.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | APA/Contractor   | Pre-construction                              |
| HR-04                   | An update to the existing Safety Management Study for the Culcairn to Wagga Wagga Pipeline will be undertaken to incorporate the UCS in accordance with AS2885, including a Hazard and Operability study. This should include assessment that the pipeline and UCS will have adequate over-pressure and over- and under-temperature protection.                                                                                                                                                                                                                                                                                                                                                                                                                                        | APA/Contractor   | Pre-construction                              |
| HR-05                   | Implementation of an appropriate asset lifecycle plan for the UCS, which includes site checks and maintenance regimes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | APA/Contractor   | Pre-construction<br>Construction<br>Operation |
| HR-06                   | Communicate to Origin Energy and neighbouring lots that may be developed in the future the risk of injury to onsite personnel, and implement appropriate safeguards, such as Emergency Response Plans, at the neighbouring facilities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | APA/Contractor   | Commissioning Operation                       |

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                  |                           |
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| HR-08                          | Hazardous Area nomination, including review of potential ignition sources on site, and selection of appropriately rated electrical equipment to manage the potential ignition sources.                                                                                                                                                                                                                                                                                                                                                                                                                                            | APA/Contractor   | Design                    |
| <b>Aboriginal heritage</b>     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                  |                           |
| AH-01                          | Additional consultation with the RAPs is currently being undertaken. On completion of consultation, an updated ACHAR will be prepared. The ACHAR will detail consultation outcomes with RAPs and be submitted during the Response to Submissions phase.                                                                                                                                                                                                                                                                                                                                                                           | APA              | Pre-determination         |
| AH-02                          | Although no specific Aboriginal heritage is anticipated to be harmed, it is noted that following approval of the modification, Aboriginal cultural heritage will be managed by the policies within a CEMP. The CEMP will include an unanticipated finds protocol and unanticipated skeletal remains protocol in accordance with Requirement 25 of the Code of Practice, as well as heritage inductions.                                                                                                                                                                                                                           | APA/Contractor   | Construction              |
| AH-03                          | All land disturbing activities will be confined to within the assessed assessment area. Should the parameters of the proposed work extend beyond the assessment area, then further archaeological assessment will be required by a suitably qualified archaeologist.                                                                                                                                                                                                                                                                                                                                                              | APA/Contractor   | Construction              |
| AH-04                          | All staff and contractors involved in the proposed work will be made aware of the legislative protection requirements for all Aboriginal heritage items.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | APA/Contractor   | Construction<br>Operation |
| <b>Non-Aboriginal heritage</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                  |                           |
| HE-01                          | In the event that a site or artefact (as defined by the NSW <i>Heritage Act 1977</i> ) is identified during construction, works will cease at the location. The find will be immediately reported to APA and NSW DCCEEW in accordance with the NSW <i>Heritage Act 1977</i> . No work will recommence within 25 m of the find until any required approval has been granted by NSW DCCEEW.                                                                                                                                                                                                                                         | Contractor / APA | Construction              |
| <b>Visual amenity</b>          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                  |                           |
| VA-01                          | Light generated during construction and operation will be managed in general accordance with the requirements in <i>Australian Standard AS 4282-1997 Control of the Obtrusive Effects of Outdoor Lighting</i>                                                                                                                                                                                                                                                                                                                                                                                                                     | Contractor / APA | Construction<br>Operation |
| VA-02                          | If noise walls are required, they will be painted in appropriate colouring to minimise potential impacts.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Contractor / APA | Construction<br>Operation |
| <b>Waste management</b>        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                  |                           |
| WA - 01                        | Wastes generated by the proposed modification will be classified and managed in accordance with the <i>Waste Classification Guidelines</i> (NSW EPA, 2014) and the waste minimisation hierarchy principles contained in the <i>Waste Avoidance and Resource Recovery Act 2001</i> as follows: <ul style="list-style-type: none"> <li>– avoidance, where possible</li> <li>– treated, as required and reused on-site</li> <li>– recycled, either within the process or off-site</li> <li>– where other alternatives are not possible, wastes will be disposed of at appropriately licensed waste management facilities.</li> </ul> | Contractor / APA | Construction<br>Operation |

# **Appendix C**

## **Statutory compliance table**



Table C.1 provides summaries of the relevant statutory requirements considered for the proposed modification and references where these have been addressed (if applicable) in the Modification Report.

In accordance with section 5.22(2) of the EP&A Act, no environmental planning instruments substantially govern the proposed modification due to its SSI declaration. Consideration has nonetheless been given to EPIs in Table C.1 that would have applied to proposed modification but for its SSI declaration.

**Table C.1** Statutory compliance table

| Legislation                                                          | Potential application                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Relevance to the proposed modification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>State legislation</b>                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <i>Environmental Planning and Assessment Act 1979 (EP&amp;A Act)</i> | <p>Part 5, Division 5.2 of the EP&amp;A Act provides for the declaration, assessment and approval of SSI projects.</p> <p>Section 5.25(2) provides that a proponent may request the Minister to modify an approval for SSI.</p> <p>Section 5.25(3) provides that a request for the Minister's approval of a modification be lodged with the Planning Secretary, and that the Planning Secretary may notify the proponent of environmental assessment requirements.</p>                                                                                                                                                                                                                                                                                                                                                                   | <p>The proposed modification will be assessed under section 5.25 of the EP&amp;A Act. The Culcairn to Wagga Pipeline was originally approved under the Pipelines Act. However, the project was transitioned to an SSI by order of the Minister for Planning and Public Spaces under SSI approval (SSI-65512969).</p> <p>As the modification is now an SSI modification application, the Minister for Planning and Public Spaces is the approval authority for the proposed modification.</p> <p>This modification report has been prepared with reference to environmental assessment requirements provided under Section 5.25(3) and the State significant infrastructure guidelines – preparing a modification report (DPE 2022).</p> |
| <i>Biodiversity Conservation Act 2016</i>                            | <p>Sections 7.9(1) and 7.9(2) provide that an application for approval of State significant infrastructure must be accompanied by a biodiversity development assessment report (BDAR) unless the proposed development is not likely to have any significant impact on biodiversity values.</p> <p>Section 7.14(2) provides that, when determining an application in accordance with the EP&amp;A Act, the Minister for Planning must take into account the likely impact of a proposed development on biodiversity values as assessed in the BDAR.</p> <p>Section 7.17 (2) provides that a BDAR is to be prepared for the modification of state significant infrastructure unless the authority determining the application for modification is satisfied that the modification will not increase the impact on biodiversity values.</p> | <p>A BDAR has been prepared for the proposed modification (see Appendix F).</p> <p>Potential biodiversity impacts are considered in Section 6.2.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <i>National Parks and Wildlife Act 1974</i>                          | <p>An Aboriginal heritage impact permit is required under Section 90 of the <i>National Parks and Wildlife Act 1974</i> in relation to the disturbance of a specified Aboriginal object.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>Section 5.22(2) of the EP&amp;A Act provides that certain environmental planning instruments do not apply in respect of SSI including Aboriginal heritage impact permit under Section 90 of the <i>National Parks and Wildlife Act 1974</i>.</p> <p>Potential impacts to Aboriginal heritage have been assessed and considered in Section 6.9 and the Aboriginal Cultural Heritage Assessment Report (see Appendix L).</p>                                                                                                                                                                                                                                                                                                           |

| Legislation                                                          | Potential application                                                                                                                                                                                                                                                                                                                                                                                                                            | Relevance to the proposed modification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Pipelines Act 1967</i> (Pipelines Act)                            | A licence to construct, operate and maintain a pipeline is required under the Pipelines Act. The Culcairn to Wagga Pipeline was authorised as PL23 under the Pipelines Act in 1997. It is now owned and operated by APA as SSI.                                                                                                                                                                                                                  | Section 18 of the Pipelines Act provides for a licensee to apply for a variation to a licence. A variation to Licence 23 will be sought to amend it to include the UCS as Modification 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <i>Protection of the Environment Operations Act 1997</i> (POEO Act)  | Part 3.2 of Chapter 3 of the POEO Act provides that an environment protection licence (EPL) is required for scheduled activities or scheduled development work. Activities requiring licences are defined in Part 3.2 and Schedule 1 of the POEO Act.                                                                                                                                                                                            | The proposed modification does not meet the definitions of scheduled activities or development work for the purposes of the POEO Act.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <i>Roads Act 1993</i>                                                | Section 138 provides that consent from the relevant road authority is required to disturb, erect a structure, or carry out a work in, on or over a public road.                                                                                                                                                                                                                                                                                  | No works to public roads are required. Existing road connections to the sites would be utilised for access as described in section 6.5.<br>A traffic impact assessment has been prepared (see Appendix H)                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <i>Water Management Act 2000</i> (WM Act)                            | A water use approval is required under section 89 of the WM Act for users to use water for a particular purpose at a particular location.<br>Section 90 of the WM Act requires an approval that authorises its holder to construct and use a specified water supply work at a specified location.<br>Section 91 of the WM Act provides that an aquifer interference approval is required to carry out specified aquifer interference activities. | Impacts to surface water, groundwater and soils is assessed in section 6.6.<br>Section 5.22(2) of the EP&A Act provides that certain environmental planning instruments do not apply in respect of SSI including approvals required under section 89, 90, and 91 of the WM Act.<br>The proposed modification does not involve water extraction nor the construction of water supply works. An approval under Section 89 or Section 90 would therefore not be required.<br>The proposed modification was assessed to not involve any aquifer interference. An aquifer interference approval would therefore not be required under Section 91 of the WM Act. |
| State Environmental Planning Policy (Hazards and Resilience) 2021    | Part 3 of State Environmental Planning Policy (Hazards and Resilience) 2021 requires that developments that are potentially hazardous require the preparation of a preliminary hazard analysis in accordance with the current circulars or guidelines.                                                                                                                                                                                           | A preliminary hazard analysis has been prepared (see Appendix K).<br>Potential hazards and risk are considered in Section 6.2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Wagga Wagga Local Environmental Plan 2010                            | The Wagga Wagga Local Environmental Plan 2010 provides certain objectives for land zones under the Local Environmental Plan. The proposed site is zoned as SP2 – Infrastructure.                                                                                                                                                                                                                                                                 | The proposed modification is consistent with the zoning objectives of SP2 – Infrastructure to provide for infrastructure and related uses and to also prevent development that is not compatible with or that may detract from the provision of infrastructure.                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Commonwealth legislation</b>                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <i>Environment Protection and Biodiversity Conservation Act 1999</i> | The EPBC Act provides that actions that have the potential to significantly impact a MNES require assessment and approval under the EPBC Act.                                                                                                                                                                                                                                                                                                    | Desktop searches identified threatened flora and fauna species and ecological communities having potential to occur within the proposal. Potential impacts to these MNES are assessed in section 6.3.<br>The assessment outcome concluded that there is low potential for threatened flora and fauna species and ecological communities to occur or be impacted as a result of the proposed modification. Referral under the EPBC Act is, therefore, not required.                                                                                                                                                                                         |

| Legislation                  | Potential application                                                                                                                                                                                                                                        | Relevance to the proposed modification                                                                                             |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <i>Native Title Act 1993</i> | The <i>Native Title Act 1993</i> allows a Native Title determination application (native title claim) to be made for land or waters where Native Title is recognised. A register of Native Title claims is maintained by the National Native Title Tribunal. | A search of the National Native Title Tribunal undertaken on 25 July 2025 revealed no Native Title claims for the Wagga Wagga LGA. |

# **Appendix D**

## **Noise and Vibration Assessment**

# **Appendix E**

## **Bushfire Assessment**

# **Appendix F**

## **Biodiversity Development Assessment Report**

# **Appendix G**

## **Air Quality Impact Assessment**



# **Appendix H**

## **Traffic Impact Assessment**

# **Appendix I**

## **Social and Economic Impact Assessment**

# **Appendix J**

## **Groundwater, Surface Water and Soil Assessment**

# **Appendix K**

## **Preliminary Hazard Analysis**

# **Appendix L**

## **Aboriginal Cultural Heritage Assessment Report**



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