



# Kurri Kurri Lateral Pipeline Project

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Critical State Significant Infrastructure Assessment (SSI-22338205)

December 2022



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*Cover image: View of Wallis Creek Floodplain. Picture taken by the Department of Planning and Environment*

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# Executive Summary

APA Transmission Pty Limited (APA) proposes to develop the Kurri Kurri Lateral Pipeline (the project) to supply natural gas from the existing transmission network at Lenaghan to the approved Hunter Power Project at Kurri Kurri in NSW.

The project would involve construction and operation of a new 21.1 kilometres (km) medium pressure underground gas transmission pipeline with operating capacity of up to 60 terajoules (TJ) per day, a buried looping high pressure gas storage pipeline around 24.4 km in length, a buried steel interconnector pipeline around 1.3 km and supporting infrastructure, including an offtake facility, delivery station and compressor station. The storage pipeline would provide up to 70 TJ of gas storage to supply the Hunter Power Project at maximum power output for up to 10 hours.

## Strategic Context

The project area is generally located within a rural landscape. The primary land uses within the project area include undeveloped land and small holding agricultural land. The transmission pipeline would traverse mining leases, state and local road and transport infrastructure, water trunk and reticulation mains, a number of watercourses and residential and industrial precincts.

In December 2021, the then Minister for Planning and Public Spaces approved the Hunter Power Project, due to its contribution to energy reliability and security in the National Energy Market (NEM) as well as NSW's transitioning away from coal fired power generation over the next 10-15 years.

Since the determination of the Hunter Power Project, the revised energy security forecasting and policy documents further emphasise the importance of the Hunter Power Project to contribute to energy security in NSW.

## Assessment Process

The project is classified as critical State significant infrastructure (CSSI) under the *Environmental Planning and Assessment Act 1979* (EP&A Act). Therefore, the Minister for Planning is the approval authority.

The project is a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) due to its potential impacts on the listed threatened species and communities under EPBC Act. Consequently, the project is assessed in accordance with the Bilateral Agreement between the Commonwealth and NSW Governments.

APA has amended the project to refine the transmission pipeline alignment to address landowner concerns and reduce environmental impacts of the project.

The Department's assessment report and recommended conditions of approval are now referred to the Minister for Planning to determine the project.

## Engagement

The Department considers that its engagement process met the community participation requirements of the EP&A Act, associated EP&A Regulation and the State's obligations under the Bilateral Agreement with the Commonwealth Government.

During exhibition of the project's Environmental Impact Statement (EIS) in April-May 2022, the Department received 21 public submissions and advice from 13 government agencies and the local councils (Newcastle Council, Maitland Council and Cessnock City Council). Of the 21 public submissions, 12 from individuals and nine from special interest groups, including 19 submitters objecting to the project and two providing comments.

During its detailed assessment of the project, the Department inspected the proposed pipeline corridor and surrounds and met with Yancoal Australia and the Bloomfield Group virtually.

The key issues raised in community submissions related to greenhouse gas and climate change impacts, the cost and justification for the project with regard to energy security and the hydrogen capability of the pipeline.

### **Assessment**

The Department considers that the key issues of the project relate to energy security, clearing of vegetation, hazards and risks and potential land use conflicts with existing and proposed development. The Department's assessment has also considered issues including hydrogen capability of the project, greenhouse gas and climate change impacts and the cost and justification for the project with regard to energy security.

### ***Biodiversity***

The Department considers that APA has designed the project to avoid and minimise impacts on high quality vegetation and habitat as far as practicable. The project construction footprint of 106 hectares (ha) would disturb approximately around 65 ha of native vegetation, comprising 23 ha of vegetation in moderate to good condition. The remaining 42 ha of native vegetation is classified as thinned/disturbed, low condition grassland, poor condition, derived grassland or planted vegetation. Around 63 hectares of vegetation, comprising six endangered ecological communities listed under *Biodiversity Conservation Act 2016* and around 1.2 ha of vegetation comprising one critically endangered ecological community under the EPBC Act, would be impacted.

The Department has carefully considered these impacts on biodiversity values, and accepts that they would be suitably managed, mitigated and/or offset under the recommended conditions of approval. The Department considers that the retirement of ecosystem and species credits would sufficiently compensate for residual biodiversity impacts.

### ***Hazards and risk***

The Department notes that APA's hazards analysis identified that all project components meet the relevant risk criteria for individual facility and injury risks, propagation risk and societal risks. The Department has recommended conditions requiring APA to carry out additional studies based on the final design of the project, including a Construction Safety Plan, Hazard and Operability Study, Emergency Plan and Safety and Operating Plan.

### ***Land use***

The pipeline route intersects with mining lease areas, existing and proposed transport, water and electricity transmission infrastructure. The Department notes that APA has carried out extensive consultation with relevant asset owners prior to and throughout the assessment process and have committed to ongoing consultation during the detailed design of the project. APA has selected trenchless construction methods where the pipeline intersects existing and proposed infrastructure to avoid direct impacts.



The Department considers that the development of the pipeline route in accordance with Australian Standard *AS2885 Pipelines – Gas and liquid petroleum* has considered current and reasonably foreseeable land uses. The Department does not anticipate any significant compatibility issues between the project and existing or proposed land uses.

### *Hydrogen*

APA has confirmed that the storage pipeline would not be capable of storing hydrogen and the transmission pipeline would be designed, constructed, commissioned and operated in accordance with the requirements of *ASME B31.12-ASME Design code for Hydrogen Piping and Pipelines*, in order to maintain readiness for potential use of up to 10% hydrogen in the east coast gas network.

The Department notes that constraints in the transmission and storage network would not preclude the future use of hydrogen at the Hunter Power Project and that Snowy Hydro is required under its infrastructure approval to investigate the latest technology for displacing natural gas or diesel as the fuel supply, (such as the use of green hydrogen) and is required to displace or offset 10% direct emissions until 2029 and all direct emissions from 2040 onwards under the project approval for the Hunter Power Project. The Department considers the design of the transmission and storage pipeline regarding hydrogen capability is acceptable.

### *Energy security, greenhouse gas and social and economic benefits*

The Department considers that issues related to greenhouse gas and energy security raised in public submissions are primarily relevant to the Hunter Power Project. Notwithstanding, the Kurri Kurri Lateral Pipeline would facilitate the benefits and impacts of the Hunter Power Project, including contributing to energy reliability and security in the National Energy Market (NEM) as it transitions away from coal-fired power station power generation and provide firming capacity to intermittent renewable energy.

The Department has considered a range of other issues in its assessment including but not limited to air quality, contaminated land, noise impacts during construction, visual impacts, heritage impacts, management of waste streams and broader social and economic aspects associated with the project. The Department considers that these impacts can be appropriately mitigated and/or offset in accordance with NSW government statutory requirements, guidelines and policy requirements.

### *Other issues*

The Department has considered a range of other impacts and issues in its assessment, including impacts to cultural and historic heritage, water resources, traffic and transport, amenity (noise, air quality and visual), waste, land contamination and rehabilitation as well as broader social and economic aspects. The Department considers that the project design would be able to minimise the project's impacts as far as practicable and any residual impacts can be appropriately mitigated, managed and/or offset in accordance with NSW government statutory requirements, guidelines and policy requirements.

### **Evaluation**

The Department considers that the project would facilitate the benefits of the Hunter Power Project which include contributing to energy reliability and security in the National Energy Market as it transitions away from coal-fired power station power generation and provide firming capacity to supplement the increasing supply of renewable energy and contribute to overall system reliability in the NEM.

Updated forecasting and modelling since the approval of the Hunter Power Project identifies energy reliability gaps forecast earlier than previously expected in NSW from 2025-26, associated with the closure of the Eraring Power Station seven years earlier than its previously modelled closure date. The

documents also identify firming capacity needs to be increased and the critical need for peaking gas-fired generation to remain through to 2050 to complement firming generation from batteries and pumped-hydro. The updated forecasting reinforces the stated benefits of the Hunter Power Project and therefore the project.

The Department considers that project impacts have been minimised by appropriate siting. The pipeline has been designed to minimise the requirement for vegetation clearing and disturbance of mapped important areas for critically endangered species as far as practicable. The project's pipeline would be constructed via horizontal direction drill (HDD) under significant floodplains and creek crossings as this construction method avoids the disturbance of riparian areas. The pipeline alignment has been located within mining lease areas and away from residential areas where possible to minimise construction amenity impacts to residential receivers.

The Department acknowledges that while the storage pipeline would not be capable of storing hydrogen, this would not preclude the future use of hydrogen at the Hunter Power Project. The Department considers the design of the transmission and storage pipeline is acceptable given current constraints regarding the transmission of hydrogen blended fuel and notes that the NSW Government aims to scale up the hydrogen industry as part of its NSW Hydrogen Strategy.

The Department has carefully considered all the issues raised and likely impacts of the project throughout its assessment process and concluded that the residual impacts can be adequately minimised, managed, or offset, to an acceptable level, subject to a comprehensive framework of recommended conditions of approval.

On balance, the Department considers that the benefits of the project outweigh its costs, and the project is in the public interest and approvable, subject to the strict recommended conditions.

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# 1 Introduction

APA Transmission Pty Limited (APA) proposes to construct and operate the Kurri Kurri Lateral Pipeline Project (the project) to supply natural gas to Snowy Hydro Limited (Snowy Hydro)'s approved Hunter Power Project at Kurri Kurri from Jemena Gas Networks (JGN) existing Sydney to Newcastle Pipeline at Lenaghan.

The project would traverse the City of Newcastle, Maitland City and Cessnock City local government areas in New South Wales (NSW) and the traditional lands of the Awabakal, Darkinjung and Wonnarua peoples (see **Figure 1**).

## 2 Project

The project involves the construction and operation of a buried gas transmission pipeline, storage pipeline and supporting infrastructure, including an offtake facility, delivery station and compressor station.

In response to submissions from landowners along the pipeline alignment and to further avoid impacts, APA amended the project in September and December 2022 to:

- minimise impacts to potential future residential areas along Buchanan Road, underground water and telecommunications services near the Donaldson Mine, and an Aboriginal cultural heritage conservation zone adjacent;
- reduce impacts of the storage pipeline development to critically endangered ecological communities and include areas for sediment dams; and
- provide flexibility in the pipeline alignment to accommodate future rehabilitation requirements at the Donaldson Mine.

The main components of the project as amended are summarised in **Table 1**, shown in **Figure 1** to **Figure 4** and described in detail in the Environmental Impact Statement (EIS), Submissions Report, Amendment Reports and additional information (see **Appendix A**). A summary of the project amendments is provided in **Table 2**.

**Table 1 | Main components of the project**

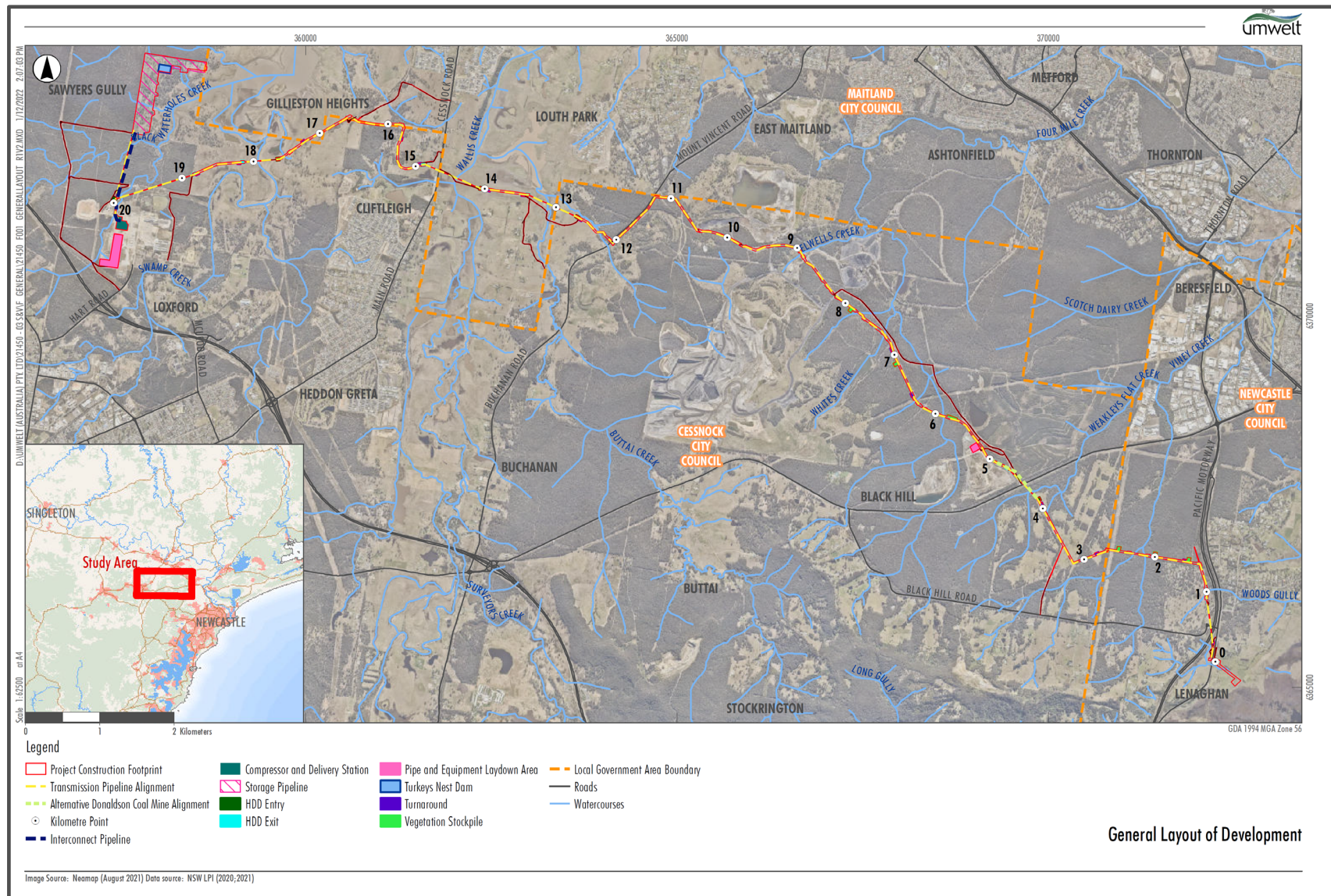
Aspect	Description
<b>Project Area</b>	<ul style="list-style-type: none"><li>• Construction footprint: about 106 hectares (ha), including around 65 ha of native vegetation clearance</li><li>• Operational footprint: about five ha</li></ul>
<b>Natural gas pipeline</b>	<ul style="list-style-type: none"><li>• <b>Transmission pipeline:</b> around 21 km buried medium pressure steel pipeline with nominal operating capacity of up to 60 terajoules (TJ) per day</li><li>• <b>Storage pipeline:</b> around 24 km buried high pressure steel looping pipeline with up to 70 TJ of gas storage capacity to supply the Hunter Power Project at maximum power output for up to 10 hours</li><li>• <b>Interconnector pipeline:</b> around 1.3 km buried steel pipeline to connect the transmission pipeline to the storage pipeline and associated infrastructure</li></ul>

Aspect	Description
	<ul style="list-style-type: none"> <li><b>Construction method:</b> open trenching, and trenchless horizontal directional drill (HDD) under sensitive areas and ancillary facilities</li> </ul>
<b>Ancillary facilities</b>	<ul style="list-style-type: none"> <li><b>Offtake and delivery stations</b> to connect and receive gas from JGN's Sydney to Newcastle Pipeline and the storage pipeline; and</li> <li><b>Compressor station:</b> to boost gas pressure prior to transfer to the storage pipeline</li> </ul>
<b>Employment</b>	<ul style="list-style-type: none"> <li>Up to 330 full-time equivalent (FTE) construction jobs and around five FTE operational jobs</li> </ul>
<b>Decommissioning and rehabilitation</b>	<ul style="list-style-type: none"> <li>Construction footprint to be progressively decommissioned and rehabilitated to previous land use at the end of the construction period</li> <li>Decommissioning of the pipeline under a Decommissioning Plan in consultation with relevant stakeholders. The pipeline would most likely be decommissioned and left in-situ</li> </ul>
<b>Capital Investment Value</b>	<ul style="list-style-type: none"> <li>\$264 million</li> </ul>

**Table 2 | Summary of project amendments**

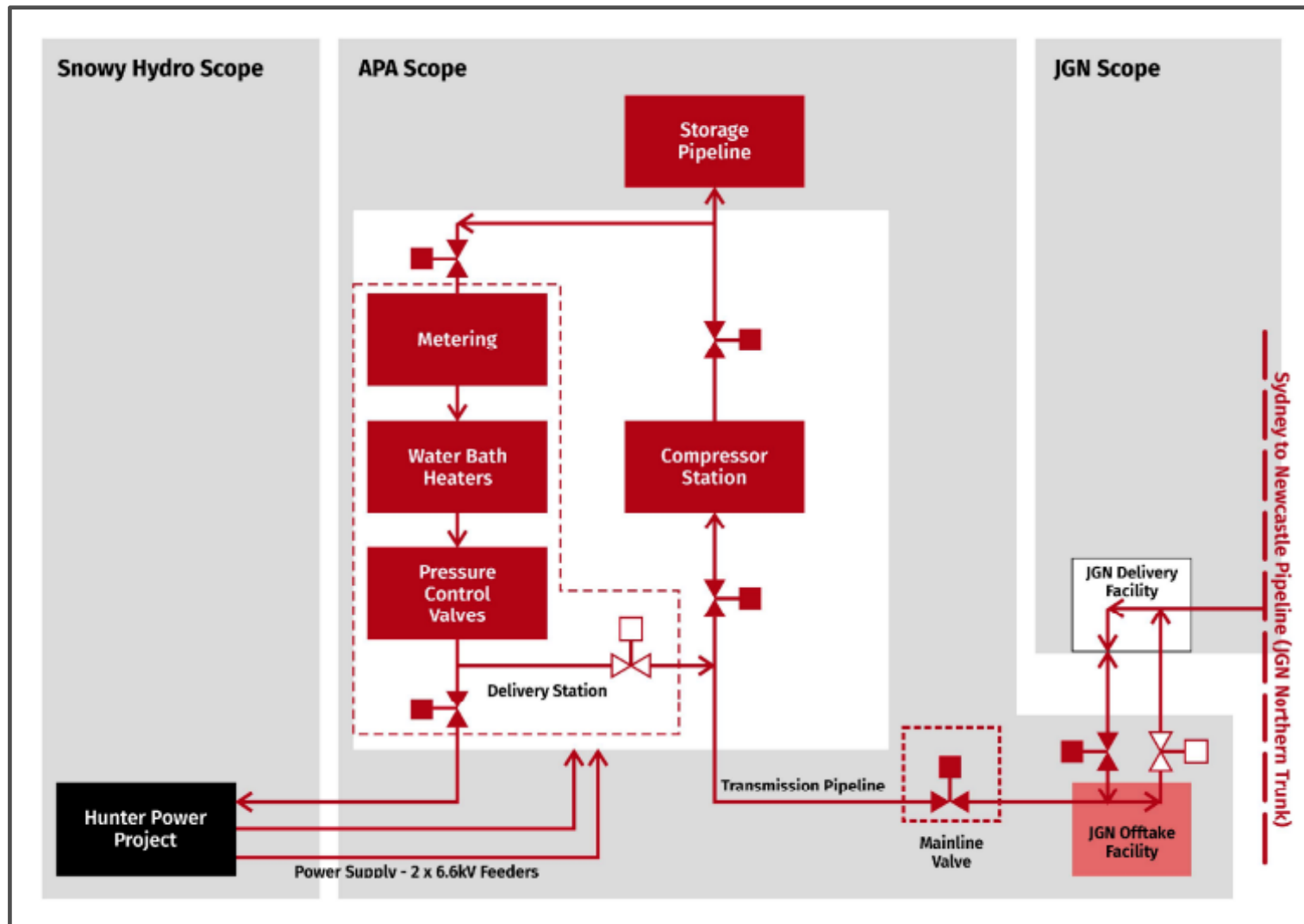
Description
<p><b>Transmission pipeline:</b></p> <ul style="list-style-type: none"> <li>Changes to alignment and an increase in length from 20.1 km to 21.1 km</li> </ul> <p><b>Storage pipeline:</b></p> <ul style="list-style-type: none"> <li>Changes to construction footprint and an increase in length from 24 km to 24.4 km</li> </ul> <p><b>Ancillary facilities:</b></p> <ul style="list-style-type: none"> <li>Relocation of the JGN Offtake facility to the eastern side of Lenaghans Drive</li> <li>Changes to the boundary and layout of the compressor and delivery stations and the associated laydown area</li> <li>Construction footprint increasing from 103 ha to 106 ha</li> <li>Operational footprint associated with ancillary facilities increasing from 2 ha to 4.8 ha</li> </ul> <p><b>Crossing design and access track:</b></p> <ul style="list-style-type: none"> <li>Crossing of the M1 Pacific Motorway, Main Road and Testers Hollow Road upgrades and the proposed Lower Hunter Freight Corridor by horizontal directional drilling (HDD)</li> <li>Inclusion of an additional four access tracks</li> <li>Other minor design amendments</li> </ul> <p><b>Donaldson Mine</b></p> <ul style="list-style-type: none"> <li>Two alignments identified, a preferred one through a bench at the Donaldson open cut mine, subject to detailed design and consideration of impacts associated with rehabilitation incorporating blasting, and an alternative alignment through mine rehabilitation.</li> </ul>



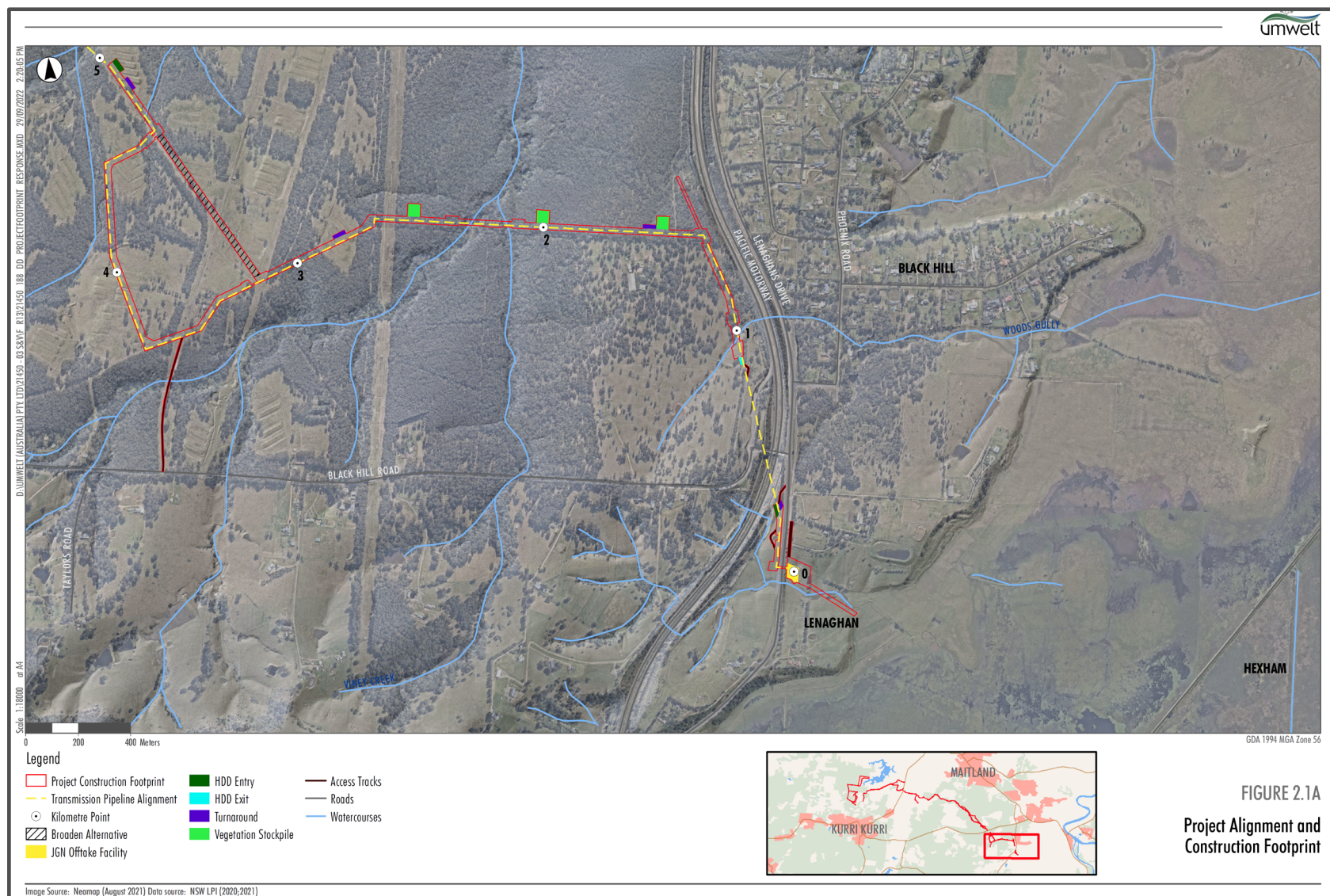


**Figure 1 | Project overview** (Source: Additional Information, November 2022)



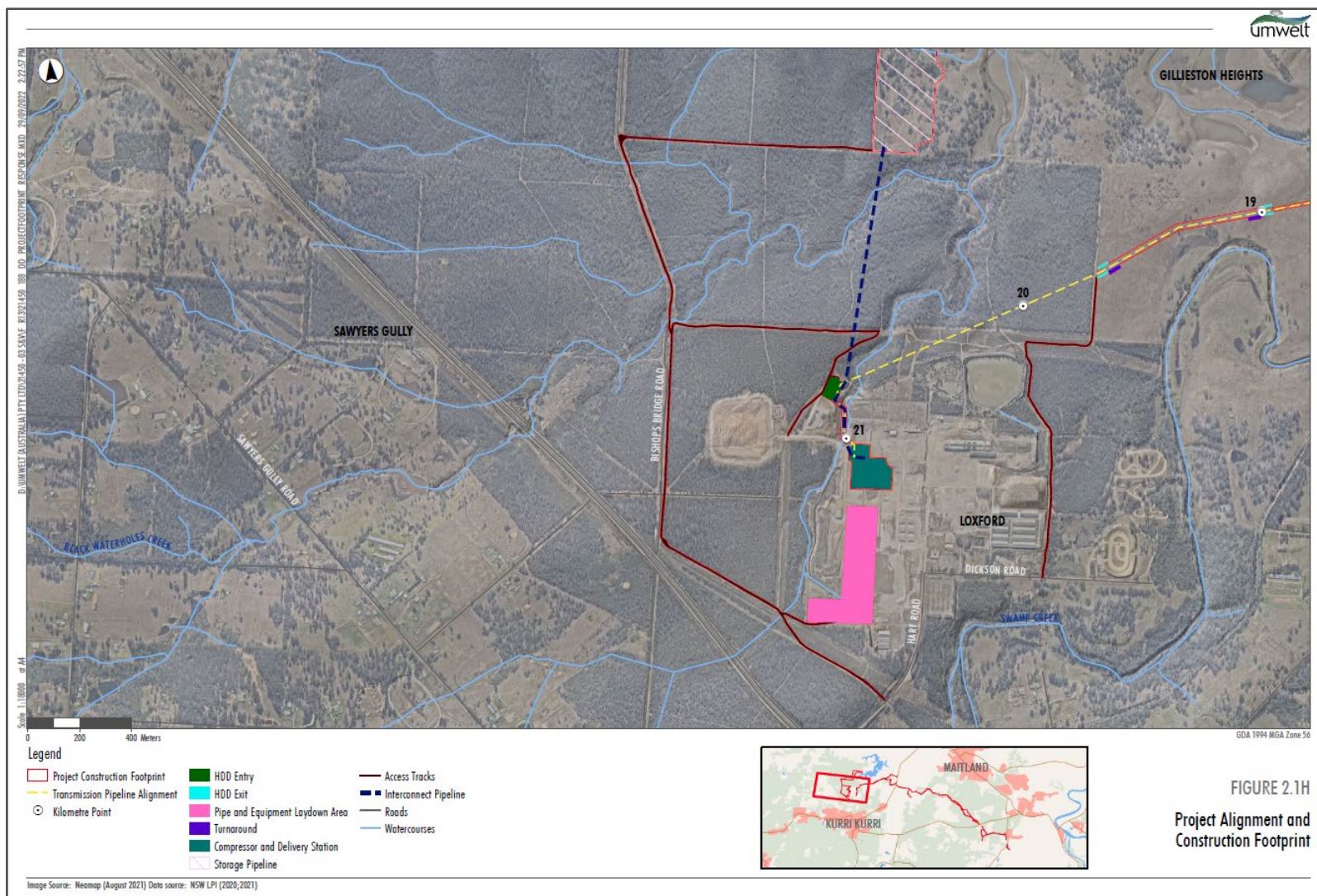


**Figure 2** | Schematic of project components (Source: EIS, March 2022)



**Figure 3 | JGN Offtake facility at Lenaghans Drive (Source: 1<sup>st</sup> Amendment Report, September 2022)**





**Figure 4 |** Storage pipeline and connection to Hunter Power Project in Kurri Kurri (Source: 1<sup>st</sup> Amendment Report, September 2022)

## 3 Strategic Context

### 3.1 Energy Policy

#### Energy Security

The following documents provide the strategic policy framework for energy security highlighting the importance of dispatchable energy supply (including large scale batteries, pumped hydro and gas-fired generation):

- the *NSW Electricity Strategy* (NSW Government, 2019);
- the *NSW Electricity Infrastructure Roadmap* (NSW Government, 2020);
- the *NSW Future of Gas Statement* (NSW Government, 2021);
- the Australian Energy Market Operator's (AEMO) *Integrated System Plan 2022*;
- AEMO's *Electricity Statement of Opportunities 2022*;
- *State of the energy market 2021* (Australian Energy Regulator (AER), 2021); and
- *Report of the Liddell Taskforce* (Commonwealth of Australia and NSW Government, 2020).

This policy framework identifies that renewables are now the most economic form of new energy generation, as firmed with dispatchable energy supply from gas, batteries and pumped hydro.

In December 2021, the then Minister for Planning and Public Spaces approved the Hunter Power Project, including the gas transmission line, as CSSI due to its contribution to energy reliability and security in the National Electricity Market (NEM) by providing up to 750 MW of new generation capacity, acknowledging NSW's transition away from coal fired power generation over the next 10-15 years.

#### Natural Gas and Hydrogen Capability

Hydrogen manufacturing is an emerging industry in Australia. Australia's *National Hydrogen Strategy* (Council of Australian Governments Energy Council, 2020) and *Long-Term Emissions Reduction Plan* identified Australia has the potential to become a significant manufacturer and exporter of hydrogen.

The existing gas network currently does not permit injection of hydrogen, apart from a trial currently underway at Jemena's Horsley Park facility, which allows up to 2% hydrogen by volume to be injected into the Jemena's gas distribution network. However, Australia's *National Hydrogen Strategy* identifies that there are not any significant implications for gas quality or safety from blending up to 10% hydrogen by volume in gas distribution networks.

In October 2021, the NSW Government released the *NSW Hydrogen Strategy* to help scale up the hydrogen industry in NSW, including a target of up to 10% hydrogen in the gas network by 2030. This initiative is part of the NSW Government's *Net Zero Plan Stage 1: 2020-2030* since 2020, and at least \$70 million funding has been allocated to develop hydrogen hubs in the Hunter and Illawarra regions.

### 3.2 Project Setting

The project would be located mainly within the Cessnock local government area (LGA) on land zoned RU2 – Rural Landscape, E2 – Environmental Conservation, IN2 – Light Industrial and SP2 – Infrastructure. The project's transmission pipeline would traverse:

- mining leases of the Donaldson, Bloomfield and Abel coal mines;

- State, local road and transport infrastructure, including the M1 Pacific Motorway and the proposed Lower Hunter Freight Corridor, and the South Maitland rail line;
- water trunk and reticulation mains including Hunter Water Corporation water supply pipeline;
- overhead transmission lines and watercourses, and
- residential and industrial precincts, including Gillieston Heights and Cliftleigh housing release areas and the emerging Black Hill Precinct industrial estate.

The storage pipeline would be located on land used for livestock grazing in the buffer zone of the former Kurri Kurri aluminium smelter, to the north of the Hunter Power Project and is designed to minimise impacts to mapped important areas for the Regent Honeyeater and Swift Parrot.

The compressor and delivery stations would be located on industrial land used for the former Kurri Kurri aluminium smelter south of the Hunter Power Project.

### 3.3 Greenhouse Gas and Climate Change

The strategic policy context for the national and NSW state response to addressing climate change is captured in the Paris Agreement, Australia's *Long-Term Emissions Reduction Plan* (Australian Government, 2021) and *Net Zero Plan Stage 1: 2020-2030* (NSW Government, 2020). Australia is one of 187 countries that have committed to keeping global temperature rises to well below 2°C under the Paris Agreement. In August 2022, the Australian Government legislated two national greenhouse gas emissions targets including:

- a 43% reduction of 2005 emission levels by 2030; and
- a reduction to net-zero emissions by 2050.

Australia's *Long-Term Emissions Reduction Plan* outlines the Australian Government's strategic investments in new dispatchable generation to achieve net-zero emissions by 2050. The plan identifies that declining technology costs would enable the sector to achieve near zero emissions, with variable renewable energy providing more than 85% of total generation, with gas generation remaining in the electricity grid by 2050.

The NSW Government's objective is to achieve net zero emissions by 2050, consistent with the Australian Government target. The *Net Zero Plan Stage 1: 2020–2030* (2020) sets out how the NSW Government will deliver on this objective over the next decade. In the *Net Zero: Stage 1: 2020-2030 Implementation Update* (2021), the NSW Government committed to halving emissions by 2030 compared to 2005 levels.

In September 2022, the NSW Environment Protection Authority (EPA) commenced public consultation of the draft *Climate Change Policy 2022-2025* and draft *Climate Change Action Plan 2022-2025* which outline a staged approach to reduce emissions and build resilience to climate change risks.

The NSW Electricity Infrastructure Roadmap provides an outline of how the State's electricity infrastructure will transition to cleaner, cheaper and more reliable energy sources. Along with investing in renewable energy zones and battery storage systems, the roadmap identifies that gas peaking power stations are one of a number of technologies required to provide dispatchable energy to offset decrease in capacity when supply from intermittent renewable sources cannot meet demand.

The *Commonwealth National Greenhouse and Energy Reporting Act 2007* (NGER Act) provides a scheme for a single national framework for Australian developers, particularly for reporting greenhouse gas emissions, energy production and energy consumption. The Safeguard Mechanism is admitted



through the NGER scheme and requires the determination of an emissions baseline for emitters and the offset of emissions above this baseline. The Commonwealth Department of Industry, Science and Resources is considering reform to the Safeguard Mechanism to help industry reduce emissions in line with Australia's climate targets.

### 3.4 Regional Setting

Local and regional strategic planning policies relevant to the project include the *Hunter Regional Plan 2041* (DPE, 2022), *Greater Newcastle Metropolitan Plan 2036* (DPE, 2018) and *Cessnock Community Strategic Plan 2027* (Cessnock City Council, 2017). The strategic planning policies identified the need to diversify and grow the energy sector with the planned closure of coal-fired power stations and to facilitate long term sustainable economic and employment growth in the region while protecting and enhancing the natural environment and character of the area.

APA has designed the transmission pipeline to avoid as far as practicable areas of potential future residential development identified in the *Hunter Regional Plan 2036* by following existing linear infrastructure, using flood prone land not suitable for residential development and having regard to the extent of the proposed future residential developments identified in the plan.

### 3.5 Related Projects

The project would have direct or indirect interactions with the following projects and infrastructure:

- Kurri Kurri Hydro Aluminium Smelter Remediation Project;
- Regrowth Kurri Kurri Project: a joint planning proposal by Cessnock City Council and Maitland City Council to rezone land owned by Hydro Aluminium for an industrial estate; and
- Lenaghan Lateral Pipeline: a proposed connection from the existing Killingworth to Kooragang Island Pipeline, which would allow bi-directional gas flow to the approved the Hunter Power Project.

The Department's assessment of these matters is provided in **Sections 6.3 and 6.4**.

## 4 Statutory Context

### 4.1 Critical State Significant Infrastructure

The project is a State significant infrastructure (SSI) and a critical State significant infrastructure (CSSI) under Section 5.13 of the EP&A Act, as it forms part of the Hunter Power Project (Kurri Kurri Gas-fired Power Station Project), which is listed under Section 24 of Schedule 4 of the *State Environmental Planning Policy (Planning Systems) 2021* (Planning Systems SEPP). Consequently, the Minister for Planning (the Minister) is the approval authority.

### 4.2 Amended Development Application

APA has amended the development application, in accordance with provisions of section 179 of *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation), where with the approval of the Planning Secretary, an SSI application can be amended at any time before the application is determined.

The proposed amendments would not change the key aspects of the development application and EIS and would reduce overall environmental and social impacts of the project. Consequently, under



delegation from the Planning Secretary, the amendments to the development application for the project were accepted in accordance with section 179(2) of the EP&A Regulation.

### 4.3 Application of *Biodiversity Conservation Act 2016*

A Biodiversity Development Assessment Report (BDAR) was provided in the EIS in accordance with Section 7.9 of the *Biodiversity Conservation Act 2016* (BC Act) for the Minister's consideration of likely impacts of the project on biodiversity values in accordance with Section 7.14 of the BC Act. The Department's consideration of biodiversity impacts of the project as documented in the BDAR (including revisions) and the advice from the Department's Biodiversity and Conservation Division (BCD) is detailed in **Section 6.2** and **Appendix C**.

### 4.4 Exempt Approvals

Under Section 5.23 of the EP&A Act, the following approvals are not required for CSSI projects:

- permits under Sections 201, 205 and 219 of the *Fisheries Management Act 1994*;
- various approvals for State Conservation Areas and heritage (including excavation and Aboriginal heritage impact permits) under the *National Parks and Wildlife Act 1974* and *Heritage Act 1977*;
- a bushfire safety authority under Section 100B of the *Rural Fires Act 1997*; and
- approvals for water use, management or an activity (other than an aquifer interference approval) under Sections 89 to 91 of the *Water Management Act 2000*.

Nevertheless, the Department's comprehensive assessment under the EP&A Act considered the relevant matters covered by this legislation in consultation with relevant agencies, and included provisions in the recommended conditions of approval to ensure the biodiversity, heritage, bushfire and water impacts of the project would be avoided, minimised or managed (see **Section 6** and **Appendix D**).

### 4.5 Environmental Planning Instruments

In accordance with Section 5.22(2) of the EP&A Act, no Environmental Planning Instruments (EPI) substantially govern the carrying out of a CSSI project other than the Planning Systems SEPP. Notwithstanding this, the Department's assessment has considered the following EPIs:

- *State Environmental Planning Policy (Transport and Infrastructure) 2021*: Clause 2.74 allows for the development for the purpose of a pipeline to be carried out by any person without consent on any land if the pipeline is subject to a licence under the *Pipelines Act 1967* or a licence or authorisation under the *Gas Supply Act 1996*;
- *State Environmental Planning Policy (Resilience and Hazards) 2021* (Resilience and Hazards SEPP): the project is a potentially hazardous industry. Therefore, a Preliminary Hazard Analysis (PHA) and details of the land contamination assessments in accordance with the Resilience and Hazards SEPP would be required for the assessment of the project.

### 4.6 Mandatory Matters for Consideration

The Department has assessed the project against the objects in Section 1.3 of the EP&A Act, including promoting the social and economic welfare of the community and a better environment and consideration of ecologically sustainable development principles. **Appendix B** provides a summary of how these objects have been considered.

When deciding whether or not to approve the carrying out of an SSI under Section 5.19 of the EP&A Act, the Minister is required to consider the Department's whole of government assessment as described in this report (see **Sections 6 and 7**), including the EIS, other reports and information, and agency advice that formed as part of this report (see **Appendix A**), and the Department's recommended conditions of approval (see **Appendix D**).

#### 4.7 Other NSW Approvals

Under section 5.24 of the EP&A Act, a number of additional approvals are required, but must be granted substantially consistent with any approval granted for the project, including:

- an approval from the Chief Executive of Subsidence Advisory NSW under section 20 of the *Coal Mine Subsidence Compensation Act 2017*, as the proposed project would be partly located within mine subsidence districts;
- a licence granted by the Minister for Energy under section 14 of the *Pipelines Act 1967* for construction and operation of the proposed pipeline; and
- a permit under Section 138 of the *Roads Act 1993*. The Department has undertaken extensive consultation with TfNSW and relevant councils during its assessment process to ensure the project's impacts are appropriately managed and minimised.

The Department has consulted with the agencies and councils responsible for these approvals in its assessment of the project.

#### 4.8 Commonwealth Approval

On 8 February 2022, a delegate of the Commonwealth Minister for the Environment (Commonwealth Minister) determined that the project was a controlled action under section 75 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and identified that the project is likely to have a significant impact on matters of national environmental significance (MNES) relevant to the project; namely, listed threatened species and communities under sections 18 & 18A of the EPBC Act. Consequently, the project requires the approval of the Commonwealth Minister for the Environment in addition to any State approvals before the project may proceed.

Under Section 45 of the EPBC Act, the assessment process under the EP&A Act has been accredited under a bilateral agreement with the Commonwealth Government. Accordingly, the NSW Government has undertaken the assessment of matters of national environmental significance on behalf of the Commonwealth Government.

The Department has worked closely with BCD in assessing the project's impacts on biodiversity and Commonwealth matters under the EPBC Act for the Commonwealth Minister's consideration, which are provided in **Section 6.2** and **Appendix C** of this report.

The Department has consulted with the Department of Climate Change, Energy, the Environment and Water (DCCEEW) in accordance with the bilateral agreement and provided draft copies of this assessment report and the recommended conditions of approval to for feedback.

## 5 Engagement

### 5.1 Department's engagement

The Department publicly exhibited the EIS from 13 April 2022 to 10 May 2022 (28 days), advertised the exhibition in the Newcastle Herald, Maitland Mercury, Cessnock Advertiser and The Australian, and notified landowners in proximity to the project area.

The Department has inspected the proposed pipeline corridor and surrounds and met with Yancoal Australia Limited (Yancoal) and Bloomfield Group virtually, and consulted with the relevant councils (City of Newcastle, Cessnock City and Maitland City Councils) and government agencies throughout its assessment.

In undertaking these processes, the Department considers that its engagement process met the notification requirements of the EP&A Act and the relevant environmental planning instruments. The Department also considers that this process has fulfilled the State's obligation under the Bilateral Agreement with the Commonwealth Government.

### 5.2 APA's Engagement

APA carried out engagement with the local community as detailed in the EIS, including:

- establishment of a project website, phone number and email address;
- direct contact with landowners along the pipeline alignment;
- consultation with Aboriginal stakeholders in accordance with relevant guidelines; and
- briefing of key stakeholders and government agencies.

### 5.3 Summary of Submissions

The Department received a total of 21 public submissions during the exhibition of the EIS and advice from 13 State government agencies, and submissions from 3 local government agencies (City of Newcastle, Maitland City and Cessnock City councils). No government agencies objected to the project.

The public submissions included 12 from individuals and 9 from special interest groups, none of which were in support of the project and comprised of 19 (90%) submissions by way of objection, and 2 (10%) providing comments on the project. Five public submitters were located within the local council areas and four special interest groups that provided submissions owned land or assets in proximity to the proposed pipeline alignment.

A break-down of the special interest groups positions is provided in **Table 3**, and full copies of public submissions and agency advice were made available on the Department's website (see **Appendix A**).

Following the exhibition of the project and during the assessment period, further representations to the Department were received from Ausgrid, Yancoal Australia and Bloomfield Group. APA noted Ausgrid's requirements in the Submissions Report and committed to ongoing consultation. The Department has considered the representations made by Yancoal Australia and Bloomfield Group in its assessment of potential land use conflicts in **Section 6.4**.

**Table 3 | Submissions by Special Interest Groups by Stance**

Object	Comment
Gloucester Knitting Nannas Against Gas & Greed, Aurizon Operations Limited, Ardent Underground Yancoal Australia Limited, The Bloomfield Group, Hydrogen Storage Hunter Bird Observers Club, Gas Free Hunter Alliance, Ashonfields Pty Limited, Institute for Energy Economics and Financial Analysis	

## 5.4 Government Agency Advice

A summary of the key matters raised and recommendations by the government agencies and in council submissions is provided in **Table 4**.

**Table 4 | Summary of Government Agency Advice**

Government Agency	Key issues
<b>Department of Planning and Environment</b>	
Biodiversity and Conservation Division (BCD)	<ul style="list-style-type: none"> <li>Requested additional information on the biodiversity assessment and updates to the BDAR, including further information on survey activities (and the completion of additional surveys), and potential impacts to MNES under the EPBC Act.</li> <li>Following review of additional information, it confirmed that the revised assessment met the requirements of the <i>Biodiversity Assessment Method</i> (BAM) and its comments had been addressed (see <b>Section 6.2</b> for further details).</li> </ul>
Water Group	<ul style="list-style-type: none"> <li>Requested further information regarding the proposed turkeys nest dam for construction activities and noted adequate water licensing must be held for all water take not subject to an exemption.</li> <li>Following review of the Submissions Report and the Amendment Report, it confirmed that its comments had been addressed, and provided post approval recommendations relating to water entitlements and works on waterfront land for inclusion in the conditions of approval, should it be approved.</li> </ul>
Heritage NSW (Aboriginal Cultural Heritage)	<ul style="list-style-type: none"> <li>Requested further detail regarding survey effort for the assessment. After reviewing the Submissions Report, Amendment Report and APA's additional information provided in an Aboriginal Cultural Heritage Assessment Addendum, it provided post approval recommendations relation to an Aboriginal Cultural Heritage Management Plan to be prepared for the project in consultation with Heritage NSW.</li> <li>The Department's consideration of these matters is detailed in <b>Section 6.5</b>.</li> </ul>
Heritage NSW as delegate of the NSW Heritage Council	<ul style="list-style-type: none"> <li>Confirmed that it did not have any comments or recommendation and that no further request for advice would be required in relation to the project, as the project area would not include, or be in the immediate vicinity of,</li> </ul>

Government Agency	Key issues
	any listed items on the State Heritage Register and would not contain any known historical archaeological relics.
Crown Lands	<ul style="list-style-type: none"> <li>Noted an easement would be required where the pipeline over affected Crown waterway (Wallis Creek) and a Crown road, and that easements over the Crown land is subject to APA demonstrating that the project would comply with the <i>Native Title Act 1993</i>.</li> </ul>
Hazards Team	<ul style="list-style-type: none"> <li>Confirmed the adequacy of the Preliminary Hazards Assessment (PHA) in the EIS.</li> </ul>
<b>Department of Primary Industries (DPI)</b>	
Fisheries	<ul style="list-style-type: none"> <li>Raised that the EIS assessment of potential impacts to aquatic ecosystems, threatened fish species, key fish habitat and habitat features was inadequate and made recommendations to minimise construction impacts to fish and key fish habitat, and rehabilitation of creek banks using native riparian vegetation.</li> <li>Confirmed that it did not have any further comments, after reviewing the Submissions Report and Amendment Report.</li> </ul>
Agriculture	<ul style="list-style-type: none"> <li>Considered that the project's impacts to agricultural land use or production would be unlikely and confirmed that it did not have any further comments or recommendations.</li> </ul>
<b>Other agencies</b>	
Transport for NSW (TfNSW)	<ul style="list-style-type: none"> <li>Provided comment regarding design requirements and ongoing consultation requirements for the pipeline where it located in proximity to TfNSW infrastructure including the M1 Pacific Motorway, John Renshaw Drive, Cessnock Road/Main Road and proposed Lower Hunter Freight Corridor, and Testers Hollow Upgrade.</li> <li>Following review of the Submissions Report and Amendment Report, it recommended inclusion of a Construction Traffic Management Plan to be prepared in consultation with TfNSW in the condition of approval, should it be approved (see <b>Section 6.5</b> for further details).</li> </ul>
Mining, Exploration and Geoscience including Resources Regulator	<ul style="list-style-type: none"> <li>Noted consulted with affected mining license owners was adequate and that there are no resource sterilisation issues.</li> <li>Noted that APA has indicated biodiversity offsetting requirements will be met by payment into the Biodiversity Conservation Trust.</li> </ul>
Fire and Rescue NSW (FRNSW)  NSW Rural Fire Service (RFS)	<ul style="list-style-type: none"> <li>FRNSW and RFS made recommendations relating to asset protection zones and emergency management, including appropriate separate distances should be maintained around proposed infrastructure and preparation of emergency response plans.</li> </ul>

Government Agency	Key issues
	<ul style="list-style-type: none"> <li>The Department's consideration of these matters is detailed in <b>Section 6.3</b>.</li> </ul>
NSW Environment Protection Authority (EPA)	<ul style="list-style-type: none"> <li>Confirmed that it would not have regulatory authority for the project, as its construction or operation would not constitute a Scheduled Activity under Schedule 1 of the <i>Protection of the Environment Operations Act 1997</i> (POEO Act).</li> <li>Noted that the project must take all necessary precautions to avoid, manage or mitigate pollution and protect human health and the environment.</li> <li><b>Sections 6 and 7</b> provide details of the Department's assessment and evaluation of the project.</li> </ul>
Subsidence Advisory NSW (SA NSW)	<ul style="list-style-type: none"> <li>Noted its ongoing consultation with APA and that the pipeline component of the project would be constructed within areas of subsidence risk and therefore APA would be required to provide further detailed geotechnical assessment to determine level of subsidence risk and appropriate engineering controls.</li> <li>Noted the additional assessments would be considered under SA NSW's separate assessment process under the <i>Coal Mine Subsidence Compensation Act 2017</i>.</li> <li>The Department's consideration of subsidence risks is provided in <b>Section 6.4</b>.</li> </ul>
Hunter Water Corporation	<ul style="list-style-type: none"> <li>Noted APA's ongoing consultation regarding the project's interaction with its assets, as the transmission pipeline would run parallel with and cross its critical and principal water supply assets.</li> <li>Confirmed that the Submissions Report and Amendment Report have addressed their concerns, including APA's commitments to minimise any impacts, including compliance with requirements of <i>Hunter Water Act 1991</i>.</li> <li>The Department's consideration of the project's interaction with the existing infrastructure is provided in <b>Section 6.4</b>.</li> </ul>
City of Newcastle Council	<ul style="list-style-type: none"> <li>Raised interactions and impacts of the project's proposed options for the transmission pipeline alignment with the existing infrastructure and road reserves, as well as biodiversity and visual impacts, including a landscape concept plan of proposed screen plantings at the offtake facility at Lenaghans Drive.</li> <li>The Department's consideration of the project's interaction with the existing infrastructure is provided in <b>Section 6</b>.</li> </ul>
Cessnock City Council	<ul style="list-style-type: none"> <li>Noted that the project would be located within an identified growth area in the <i>Hunter Regional Plan 2036</i> and the project's impacts on biodiversity values and water resources.</li> </ul>



Government Agency	Key issues
	<ul style="list-style-type: none"> <li>Recommended inclusion of requirements for any temporary road closure in a construction traffic management plan in consultation with the relevant road authorities.</li> <li>Details of the Department's consideration of these matters are in <b>Section 6</b>.</li> </ul>
Maitland City Council	<ul style="list-style-type: none"> <li>Did not comment or provide recommendations.</li> </ul>

## 5.5 Public Submissions

The key issues raised in community submissions from the general public related to greenhouse gas and climate change impacts, the cost and justification for the project with regard to energy security and the hydrogen capability of the pipeline. Other issues included:

- biodiversity impacts;
- hazards and risk; and
- socioeconomic impacts and benefits, including concern that the project would not create enough employment opportunities.

Community submissions included a number of concerns specific only to the Hunter Power Project. The Department's assessment of the Hunter Power Project is available on the Department's website (<https://www.planningportal.nsw.gov.au/major-projects/projects/hunter-power-project-kurri-kurri-power-station>). While the Department has considered these concerns regarding issues relevant to both projects where relevant, issues specific to the Hunter Power Project are considered to be outside the scope of this assessment. Notwithstanding, the Department has provided comment on these issues in **Section 6.3**.

Of the nine special interest groups, four were climate action or environmental groups, four groups represented the interests of land or asset owners affected by the pipeline, and one was a company with expertise in hydrogen storage.

The climate action and environmental groups raised concern regarding the cost and justification for the project with regard to climate change, greenhouse gas emissions and the hydrogen capability of the pipeline.

Land and asset owners raised issues related to consultation during the preparation of the EIS, the alignment of the pipeline, potential impacts to assets (including roads and other infrastructure) located on the land and concern that the pipeline may limit potential future local development.

## 5.6 Submissions Report, Amendment Reports and Additional Information

In September 2022, APA provided a Submissions Report and an Amendment Report (1<sup>st</sup> amendment), providing revised or additional assessment of environmental aspects in response to submissions and agency advice, APA further amended the project in December 2022 (2<sup>nd</sup> amendment, see **Section 2** and **Appendix A**).

The Department made the Submissions Report and each Amendment Report publicly available on its website and sought additional advice from government agencies, including the local councils. The Department also requested APA to provide additional information during its comprehensive assessment process to assist in addressing residual issues raised by government agencies, community and the Department. The additional agency advice and information provided by APA is available in **Appendix A**.

## 6 Assessment

The Department has assessed the merits of the project in accordance with the requirements of the EP&A Act and applicable NSW policies and guidelines.

APA considered three pipeline alignment options during the EIS development and selected the preferred pipeline alignment based on consideration of key constraints, including biodiversity and heritage values, existing surface features and infrastructure, and following consultation with key stakeholders.

The project's pipeline alignment would be located largely within mining lease areas, away from residential areas where possible, to minimise amenity impacts and would also follow existing linear infrastructure for around one third of its length which would minimise the requirement for vegetation clearing and disturbance.

The Department considers that the key issues of the project relate to energy security, clearing of native vegetation including endangered ecological communities (EECs), hazards and risks and potential land use conflicts with existing and proposed development.

Key concerns raised in community objections included hydrogen capability of the project, greenhouse gas and climate change impacts, the cost and justification for the project with regard to energy security and reliability. The Department considers that these issues are primarily relevant to the Hunter Power Project, as the function of the Kurri Kurri Lateral Pipeline is to transmit gas from the existing Sydney to Newcastle Pipeline to the power station. Notwithstanding, the Department has provided consideration of these issues.

The Department's assessment of the key potential impacts and considerations for the project is provided **Section 6.1** to **Section 6.4**. The Department's assessment of other issues is provided in **Table 9**.

### 6.1 Energy Security and Reliability

Public submissions raised concerns about the justification for the project with regard to energy security. The Department considers that these issues are primarily relevant to the Hunter Power Project, as the function of the pipeline is to transmit gas from the existing Sydney to Newcastle Pipeline to the power station.

In December 2020, the then Minister approved the Hunter Power Project, which included descriptions of the need related to its contribution to energy reliability and security in the NEM and in consideration of the State's transitioning away from coal-fired power station power generation over the next 10-15 years. System security relates to maintaining the power system within technical operating limits needed to keep it safe and stable. Synchronous generators (those that use spinning turbines synchronised with

the frequency of the system) are required in the power system to keep the power system stable and secure.

Since the determination of the Hunter Power Project, the revised energy security forecasting and policy documents further emphasise the importance of the Hunter Power Project to contribute to energy security in NSW, including AEMO's *Integrated System Plan 2022* and *Electricity Statement of Opportunities 2022*. The project is needed to realise the full benefits of the Hunter Power Project including to:

- mitigate the dispatchable energy security risks posed to the NEM by the scheduled closure of Liddell Power Station in 2023-2024, along with other future coal fired power station planned closures;
- facilitate NSW's transition to a low carbon emissions economy by providing firming power to existing and proposed intermittent renewable energy projects;
- mitigate potential electricity price increases associated with the closure of Liddell Power Station; and
- generate additional investment and jobs in NSW, including direct employment of up to 250 people during construction and a capital cost of \$610 million.

The most recent modelling and forecasting of energy reliability is in AEMO's *Integrated System Plan 2022* and AEMO's *Electricity Statement of Opportunities 2022* which identifies that:

- reliability gaps are forecast earlier than previously expected in NSW from 2025-26, associated with the proposed early closure of the Eraring Power Station;
- firming capacity needs to be increased threefold from alternative sources to coal including utility-scale batteries, hydro storage and gas-fired generation;
- gas-fired generation will play a crucial role as coal-fired generation retires to complement battery and pumped hydro generation in periods of peak demand, and periods of planned maintenance, noting the need for peaking gas-fired generation will remain through to 2050; and
- with the expected closure in 2023-24 of the Liddell Power Station, new generation capacity would assist to maintain system reliability following the plant's retirement.

## 6.2 Biodiversity

The project would have direct impacts on terrestrial and aquatic biodiversity through clearing of native vegetation and habitat for listed threatened flora and fauna species and vegetation communities during construction.

The project area is generally located on a rural landscape which has largely been cleared of native vegetation for agriculture, mining and urban development. The most significant areas of native vegetation are located on undeveloped land surrounding Bloomfield Colliery in the centre of the project area and to the north of the Hunter Power Project at the western extent of the project area.

Aquatic habitats within the project area consist of floodplain features of Black Waterholes Creek, Swamp Creek and Wallis Creek, as well as the smaller creeks that intersect the project Area.

### Assessment process

APA assessed impacts to biodiversity values in a BDAR in accordance with the *Biodiversity Assessment Method* (BAM) and provided a revised BDAR as part of the 1<sup>st</sup> Amendment Report and in

response to BCD's advice. The Department, including BCD, consider that the BDAR has been prepared in accordance with relevant guidelines and policy. APA provided information about the biodiversity impacts associated with the alternative pipeline route through the Donaldson Coal mine as part of the 2<sup>nd</sup> Amendment Report.

Some areas within the project disturbance footprint were subject to access restrictions and seasonal survey limitations including for the koala. Umwelt has assumed that relevant species in these areas are present for the purposes of generating offset calculations.

The project has been declared a 'controlled action' under the EPBC Act due to potential significant impacts on matters of national environmental significance (MNES) for four listed threatened species (regent honeyeater, swift parrot, koala and grey-headed flying fox) and one ecological community (River-flat Eucalypt Forest). The BCD and Department's assessment of the project's impacts on the EPBC Act-listed species and communities are provided in **Appendix A4** (Agency Advice) and below, respectively and a detailed consideration of these matters is provided in **Appendix C**.

### Avoidance and mitigation

APA's proposed measures to avoid and minimise impacts on biodiversity values include:

- locating the transmission pipeline alignment on previously cleared land as much as possible and adjacent to existing Hunter Water infrastructure for about one third of its length to minimise impacts on native vegetation and habitat;
- locating surface facilities and laydown areas on land containing exotic grasslands at the offtake facility or hardstand area at the former Kurri Kurri aluminium smelter (compressor and delivery stations);
- use of trenchless horizontal directional drill (HDD) crossings for transmission and storage pipeline construction to avoid impacting main waterways and floodplains, and on an area of remnant Kurri Sand Swamp Woodland EEC to the north of the Hunter Power Project and avoiding a microbat roost site to the north of John Renshaw Drive;
- designing the storage pipeline to minimise impacts to Critically Endangered Ecological Community (CEEC) and MNES under the EPBC Act (remnant woodland areas of River-flat eucalypt forest);
- controlling weeds, erosion, sediment and other pollutants during construction; and
- progressively rehabilitating the project area, including revegetation and soil stabilisation.

### Native vegetation clearing

Native vegetation clearing required for the project is summarised in **Table 5**. The construction footprint would be approximately 106 ha and would disturb approximately 64.56 ha of native vegetation, comprising 23 ha of vegetation in moderate to good condition. The remaining 41.56 ha of native vegetation is classified as thinned/disturbed, low condition grassland, poor condition derived grassland or planted native vegetation.

Around 63 ha of vegetation comprising six EECs listed under the *Biodiversity Conservation Act 2016* (BC Act) and around 1.2 ha of vegetation comprising one CEEC under the EPBC Act would be impacted. Impacts on the communities listed under the EPBC Act including offset liabilities, are identified and further considered in **Appendix C**.

**Table 5 | Native vegetation clearance**

Plant Community Type (PCT)	Conservation Status		Condition	Impact area (ha)	Ecosystem credits
	BC Act	EPBC Act			
1071 - <i>Phragmites australis</i> and <i>Typha orientalis</i> coastal freshwater wetlands of the Sydney Basin Bioregion	EEC	-	Moderate/good	0.09	2
1568 - Blackbutt - Turpentine - Sydney Blue Gum mesic tall open forest on ranges of the Central Coast	EEC	-	Moderate/good	0.89	26
1590 - Spotted Gum – Broadleaved Mahogany - Red Ironbark shrubby open forest	EEC	-	Moderate/good	12.71	412
			Thinned/disturbed	0.7	
	-	-	Derived native grassland	0.69	
1592 - Spotted Gum - Red Ironbark - Grey Gum shrub - grass open forest of the Lower Hunter	EEC	-	Moderate/good	1.94	203
			Thinned/disturbed	3.83	
1594 - Cabbage Gum-Rough-barked Apple grassy woodland on alluvial floodplains of the lower Hunter	EEC	CEEC	Thinned/disturbed	1.2	59
	-	-	Low condition grassland	1.08	
1598 - Forest Red Gum grassy open forest on floodplains of the lower Hunter	EEC	-	Thinned/disturbed	1.72	58
1600 - Spotted Gum – Red Ironbark – Narrowleaved Ironbark – Grey Box shrub-grass open forest of the lower Hunter	EEC	-	Moderate/good	3.43	493
			Thinned/disturbed	27.48	
1619 - Smoothbarked Apple – Red Bloodwood - Brown Stringybark - Hairpin Banksia heathy open forest of coastal lowlands	-	-	Thinned/disturbed	1.07	23
1633 - Parramatta Red Gum – Narrowleaved Apple - Prickly-leaved Paperbark shrubby woodland in the Cessnock-Kurri Kurri area	EEC	-	Thinned/disturbed	2.93	54
1728 - Swamp Oak – Prickly Paperbark – Tall Sedge swamp forest on coastal lowlands of the Central Coast and Lower North Coast	EEC	-	Moderate/good	0.7	15
			Thinned/disturbed	0.66	
1736 - Water Couch - Tall Spike Rush freshwater wetland of the Central Coast and lower Hunter	EEC	-	Moderate/good	3.87	78
			Poor	0.19	
Planted native vegetation	-	-	Planted	0.01	-
<b>Total</b>				<b>64.56</b>	<b>1,423</b>

## Flora

Biodiversity surveys completed for the project identified direct impacts to three flora species listed under the BC Act and EPBC Act through direct loss from vegetation clearing as summarised in **Table 6**. An additional eight species have been assumed to be present due to access restrictions and seasonal survey limitations.

**Table 6 | Impacts to listed flora species**

Flora species	Conservation Status		Direct impact	Species credits
	BC Act	EPBC Act		
Small-flower grevillea ( <i>Grevillea parviflora</i> subsp. <i>parviflora</i> )	Vulnerable	Vulnerable	13.8 ha	416
<i>Eucalyptus parramattensis</i> subsp. <i>decadens</i>	Vulnerable	Vulnerable	11 individuals	22
Netted bottlebrush ( <i>Callistemon linearifolius</i> )	Vulnerable	-	19 individuals	30
Assumed present subject to additional survey			Assumed habitat impacted (ha)	Credits
Pine donkey orchid	Vulnerable	-	2.91	30
Large-leafed Monotaxis	Endangered		2.91	173 <sup>1</sup>
<i>Ozothamnus tessellatus</i>	Vulnerable	Vulnerable	2.94	99
Singleton mint bush	Vulnerable	Vulnerable	8.7	225
<i>Pterostylis chaetophora</i>	Vulnerable	-	8.7	225
Tall knotweed	Vulnerable	-	3.67	92
Black-eyed Susan	Vulnerable	Vulnerable	5.79	185
Austral toadflax	Vulnerable	Vulnerable	5.67	100
<b>Total</b>				<b>1,597</b>

Notes:

1. The credit liability for the Large-leafed Monotaxis was estimated by the Department's BCD because a credit liability was not calculated for this species in the BDAR.

## Fauna

The project has the potential to impact fauna species through direct habitat loss from vegetation clearing as summarised in **Table 7**. Some minor indirect impacts associated with noise, dust and weeds may occur during construction. The Department also notes that other endangered fauna, such as the swift parrot, koala and grey-headed flying fox, are assessed as ecosystem credit species, as the habitat values are directly related to the PCT's impacted and identified in **Table 5**.



Biodiversity survey completed for the project identified direct impacts to fauna including the clearing of 0.46 ha of mapped important habitat and around 50 ha of potential foraging habitat for the regent honeyeater (*Anthochaera phrygia*) (critically endangered under the BC Act and EPBC Act) and clearing of 7.43 ha of habitat for the squirrel glider (*Petaurus norfolcensis*) (vulnerable under the BC Act). An additional five species have been assumed to be present due to access restrictions and seasonal survey limitations.

**Table 7 | Impacts to listed fauna species**

Fauna Species	Conservation Status		Direct impact (ha)	Species credits
	BC Act	EPBC Act		
Regent Honeyeater ( <i>Anthochaera phrygia</i> )	Critically endangered	Critically endangered	0.46	24
Squirrel glider ( <i>Petaurus norfolcensis</i> )	Vulnerable	-	7.43	301
Assumed present subject to additional survey			Assumed habitat impacted	Credits
Gang gang-cockatoo ( <i>Callocephalon fimbriatum</i> )	Vulnerable	Endangered	8.7	225
Eastern pygmy possum ( <i>Cercartetus nanus</i> )	Vulnerable	-	5.79	185
Brush-tailed phascogale ( <i>Phascogale tapoatafa</i> )	Vulnerable	-	5.79	185
Little eagle ( <i>Hieraaetus morphnoides</i> )	Vulnerable	-	9.46	181
Square-tailed kite ( <i>Lophoictinia isura</i> )	Vulnerable	-	8.7	169
<b>Total</b>				<b>1,270</b>

### Serious and Irreversible Impacts

The BDAR identified 13 species-credit species, including 6 flora and 7 fauna species, listed as Serious and Irreversible Impact (SII) entities in accordance with Section 9.1.2 of the BAM with only the regent honeyeater being at risk and provided a further assessment against the principles of SII species.

Based on the SII assessment, the project would be unlikely to have a SII on the regent honeyeater, as it is unlikely that removal of 0.46 ha of marginal habitat would be significant to the survival of the species or impede its recovery. The project would avoid large areas of intact, higher quality habitat within the surrounding area of the construction footprint, known to provide winter foraging resources for the regent honeyeater.

## Waterways and Aquatic Habitats

Potential impacts to waterways and aquatic habitats would be largely avoided where the pipeline would be constructed via HDD under significant floodplains and creek crossings as this construction method avoids the disturbance of riparian areas.

Open trenching is proposed for minor watercourses. For open trench crossings, impacts would include reduced availability of habitat for aquatic species, altered hydrology and the potential for increased erosion and sedimentation of downstream environments. APA has identified measures to mitigate impacts associated with open trenching, including flow diversions, completing construction in no or low-flow conditions where practicable, the removal of obstructions within the watercourse as soon as practicable and reinstating bank stability to the same or better condition once construction is completed.

There is unlikely to be any impact on the groundwater resources including groundwater that may be intermittently used by low and moderate potential Groundwater Dependent Ecosystems.

The southern purple spotted gudgeon (*Mogurnda adspersa*) is mapped as predicted to occur in the project area. This species is listed as endangered under the *NSW Fisheries Management Act 1994* and was assumed to be present within the project area. The BDAR identified that potential impacts to the southern purple spotted gudgeon are unlikely as there would be negligible impact to flow in local creeks as a result of the project, and short term construction activities would be appropriately managed to minimise water quality impacts.

## Biodiversity Offset

Under the BC Act, the impact on native vegetation and species would generate 1,423 ecosystem credits and 2,867 species credits. APA identified that 71 additional ecosystem credits would be required if the alternative alignment through the Donaldson Coal mine is selected.

Both the Department and BCD are satisfied that the offset credit requirements have been correctly calculated. APA would need to offset the residual biodiversity impacts of the project in accordance with the *NSW Biodiversity Offset Scheme*, which includes the following options:

- acquiring or retiring 'biodiversity credits' within the meaning of the BC Act;
- making payments into the NSW Government's Biodiversity Conservation Fund; or
- funding a biodiversity conservation action that benefits the entity impacted and is listed in the ancillary rules of the NSW Biodiversity Offsets Scheme.

## Recommendations

The Department has recommended conditions to mitigate and manage potential residual impacts on biodiversity, including:

- preparing and implementing a Biodiversity Management Plan during construction that incorporates proposed avoidance and mitigation measures;
- a mechanism for APA to re-calculate biodiversity credits where additional survey work is completed prior to construction;
- retiring biodiversity credits prior to vegetation clearing;
- progressive rehabilitation following disturbance;
- construction of watercourse crossings of the pipeline in accordance with *Guidelines for Controlled Activities on Waterfront Land* (NSW Office of Water, 2012); and

- preparing and implementing a Soil and Water Management Plan during construction that incorporates measures to manage and mitigate potential erosion impacts.

## Summary

BCD was satisfied that the revised BDAR met the requirements of the BC Act and that APA has adequately addressed all comments. The Department considers that the project has been designed to avoid, mitigate and manage biodiversity impacts where practicable. However, the project would result in a range of residual impacts on biodiversity, including EEC/CEECs and threatened fauna species listed under the BC Act and EPBC Act.

The Department has carefully considered these impacts on biodiversity values, and accepts that they would be suitably managed, mitigated and/or offset under the recommended conditions of approval. The Department considers that the retirement of ecosystem and species credits would compensate for these residual biodiversity impacts, in accordance with the BC Act. Overall, the Department considers the impacts of the project on biodiversity, including on MNES, are acceptable.

## 6.3 Hazards and Risks

The project is classified as a hazardous industry under the Resilience and Hazards SEPP, as it has the potential to cause impacts through ignition of gas from the pipelines or ancillary infrastructure.

### Assessment process

APA completed a Preliminary Hazard Analysis (PHA) in accordance with the Resilience and Hazards SEPP and relevant guidelines including *Hazardous Industry Planning Advisory Paper No. 6 – Guidelines of Hazard Analysis* (DPE, 2011). The PHA also considered the outcomes and potential propagation risks associated with the project's interaction with the Hunter Power Project.

The PHA considered the individual fatality risks and injury risks to individuals from heat radiation or explosion and propagation risk to and from other hazardous operations. The likelihood of risks was assessed against acceptable risk criteria in *Hazardous Industry Planning Advisory Paper No. 4 – Risk Criteria for Land Use Safety Planning* (DPE, 2011) (HIPAP 4) which are outlined in **Table 8**.

**Table 8 | Acceptable level of risk for fatality, injury and propagation (HIPAP 4)**

Acceptable level of risk (per annum)	Land use
<b>Fatality</b>	
0.5 in a million	Hospitals, schools, child-care facilities, old age housing
1 in a million	Residential, hotels, motels, tourist resorts
5 in a million	Commercial developments including retail centres, offices and entertainment centres
10 in a million	Sporting complexes and active open space
50 in a million	Industrial
<b>Injury</b>	

Acceptable level of risk (per annum)	Land use
50 in a million	Sensitive land uses and industrial areas
<b>Propagation</b>	
50 in a million	Industrial operations

The PHA identified that all project components meet the relevant HIPAP 4 risk criteria for individual facility and injury risks, propagation risk and societal risks. It is noted that APA used data from the UK for the frequency of pipeline failure events at the request of the Department's hazards team and therefore the results of the assessment are conservative compared to Australian data on pipeline failure.

APA identified a range of risk control measures in the PHA including preparation of an Emergency Response Plan, implementation of maintenance systems including routine leak inspections, installation of pipeline markers and signage and registering the location of all underground pipelines with Dial Before You Dig.

The PHA also considered potential bushfire hazards and identified that bushfire risks could be appropriately managed through the development and implementation of an Emergency Plan, including relevant management measures, safeguards and controls.

The Department notes that the pipeline would be regulated under the *Pipelines Act 1967* and as a licensed pipeline, would be subject to a range of strict requirements under this legislation for the design, construction, commissioning, operation and decommissioning of the pipeline.

## Recommendations

The Department's hazards team reviewed the PHA and concluded that the assessment was adequate and consistent with relevant guidelines and recommended conditions requiring APA to carry out additional studies based on the final design of the project, including a Construction Safety Plan, a Hazard and Operability Study, a Safety and Operating Plan and an Emergency Plan, which captures the requirements of an Emergency Services Information Package recommended by FRNSW.

## Summary

The Department considers that the hazards and risks associated with the project could be adequately managed and mitigated through the recommended conditions.

## 6.4 Land use conflict

The Department considers that key issues related to land use are potential impacts on existing infrastructure and other potential existing and proposed land use planning conflicts along the pipeline route. Stakeholders that own land used for mining operations also raised concern in their submissions and subsequent representations to the Department regarding the effect of the pipeline on rehabilitation and other obligations for mine operators.

### Existing and proposed public infrastructure

The pipeline route intersects with existing and proposed transport, water and electricity transmission infrastructure. APA has carried out extensive consultation with relevant asset owners prior to and

throughout the assessment process and has committed to ongoing consultation during the detailed design of the project. APA has selected trenchless construction methods where the pipeline intersects existing and proposed infrastructure to avoid impacts. This includes selection of a trenchless construction method for the section of the transmission pipeline that would traverse the proposed Lower Hunter Freight Corridor following consultation with TfNSW.

TfNSW, Hunter Water, Ausgrid and the local councils did not raise concern regarding APA's consultation during the development of the project and the relevant asset owners provided ongoing consultation requirements for the detailed design of the project. APA agreed to all consultation and design requirements in the Submissions Report.

TfNSW was supportive of the Department's recommended conditions, which include the requirement to enter into a formal agreement with TfNSW regarding detailed design and construction requirements in and adjacent to state road infrastructure. The Department has recommended a condition that requires APA to undertake any works on or in the vicinity of public infrastructure in consultation with the applicable public authority or service provider.

### **Land use conflicts**

APA is required to consider potential land use planning conflicts in accordance with Australian Standard *AS2885 Pipelines – Gas and liquid petroleum*. AS2885 requires APA to consider the existing and reasonably foreseeable land uses within a defined area from the proposed pipeline corridor for the design life of the pipeline. This process includes avoiding potential impacts on existing land uses defined as "Sensitive" under the standard, including childcare centres, hospitals, places of worship and high-density residential uses.

Following landowner consultation, APA amended the project to include two transmission pipeline route options in the vicinity of the proposed Broadben Management Industrial Estate.

Based on its landowner consultation, APA does not anticipate any significant compatibility issues between the project and proposed land uses. Future land use development applications, including the potential 'Stony Pinch Consortium' site raised in public submissions, would generally not be constrained by the project. The exception is if a "Sensitive" land use was proposed to be located within 37 m of the transmission pipeline. Any future development in this area would need to consider the hazards associated with the pipeline and locate sensitive land uses at an appropriate distance from the pipeline.

The Department considers that the project would generally not sterilise land for urban development, however the project may influence the ability to establish 'Sensitive' land uses in close proximity to the transmission and storage pipelines.

Notwithstanding, the Department notes that APA operates a number of pipelines in areas of high population density including the Moomba to Sydney Ethane Pipeline (which traverses inner western suburbs of Sydney) and Roma to Brisbane Pipeline (which traverses southern suburbs of Brisbane).

The Department considers that the project can be carried out without conflicts with works being completed as part of the Kurri Kurri Hydro Aluminium Smelter Remediation Project, subject to ongoing consultation between APA and the relevant parties delivering the smelter remediation project.

## Mining operations and subsidence

Approximately 10 km of the transmission pipeline would be located within mining lease areas held by Yancoal, for the Donaldson Coal Mine, and the Bloomfield Group, for the Bloomfield Mine. APA has been consulting with these mine operators about the project's interaction with their operations. As part of this consultation and during the public exhibition of the project, Yancoal and Bloomfield Group raised concern regarding potential impacts of the transmission pipeline to existing rehabilitated mine areas and areas subject to future rehabilitation works, as well as concerns regarding safety obligations under mine safety legislation.

APA amended the project to include two route options for the transmission pipeline in the areas of concern (Amendment 2), with a preferred option to be selected following further consultation. The Department met with Yancoal, Bloomfield Group and the Department of Regional NSW – Mining, Exploration and Geoscience (including Resources Regulator) to discuss concerns regarding safety and rehabilitation obligations. The Department was satisfied all relevant concerns could be addressed by APA subject to ongoing consultation with the mine lease operators.

The project would be partly constructed in a declared mine subsidence district. SA NSW advised that sections of the transmission pipeline would be constructed where significant subsidence risks have been identified and that further detailed geotechnical investigations would be required to determine the level of subsidence risk and engineering controls to manage this risk.

As described in **Section 4.7**, the project would require an approval from SA NSW under the *Coal Mine Subsidence Compensation Act 2017* and detailed subsidence risk assessments would be subject to a further assessment process by SA NSW.

The Department has recommended conditions that APA ensures that all new structures within a Mine Subsidence District are constructed in accordance with the requirements of SA NSW.

## Summary

The Department considers that APA has designed the project to avoid conflicts with existing infrastructure as far as practicable and has adequately considered potential conflicts with proposed infrastructure and potential future land use changes along the pipeline route. The Department has recommended conditions to mitigate and manage potential land use conflicts.

## 6.5 Other issues

The Department's consideration of other issues is provided in **Table 9**.

**Table 9 | Other issues**

Issue	Department's consideration	Recommended conditions
<b>Natural Gas and Hydrogen</b>	<ul style="list-style-type: none"><li>A key issue raised in community objections included the ability of the pipeline to supply a hydrogen blended fuel to the Hunter Power Project.</li><li>APA confirmed that the storage pipeline would not be capable of storing hydrogen and the transmission pipeline would be capable of transferring and storing up to 10% hydrogen,</li></ul>	<ul style="list-style-type: none"><li>None required</li></ul>



Issue	Department's consideration	Recommended conditions
	<p>consistent with strategic policies regarding the use of hydrogen in the gas transmission network.</p> <ul style="list-style-type: none"> <li>• APA identified that the level of capital expenditure required to construct the storage pipeline for it to be capable of storing a hydrogen blended fuel is not economic for the project at this stage.</li> <li>• The Department notes that constraints in the transmission and storage network would not preclude the future use of hydrogen at the Hunter Power Project, including the option to inject hydrogen onsite.</li> <li>• For other power stations planning to use a hydrogen-blended fuel (Tallawarra B and Port Kembla Power Stations, both at the preliminary planning phase), the respective proponents anticipate that hydrogen (subject to commercial availability) would be received and blended with natural gas on-site rather than via the transmission network.</li> <li>• The Department also notes that notwithstanding constraints in the transmission and storage pipelines, Snowy Hydro is required under its infrastructure approval to investigate the latest technology for displacing natural gas or diesel as the fuel supply, such as use of green hydrogen and is required to displace or offset 10% direct emissions until 2029 and all direct emissions from 2040 onwards under the project approval for the Hunter Power Project.</li> <li>• Given the above the Department considers the design of the transmission and storage pipeline regarding hydrogen capability is acceptable.</li> </ul>	
<b>Aboriginal Heritage</b>	<ul style="list-style-type: none"> <li>• The project's Aboriginal Cultural Heritage Assessment Report (ACHAR) included consultation with Aboriginal stakeholders and archaeological survey in accordance with relevant guidelines.</li> <li>• The ACHAR identified that the project would impact 11 potential archaeological deposits (PADs) and 12 artefact sites. The artefacts sites have been assessed as having low cultural significance for rarity, representativeness, educational potential and integrity and the PADs have been assessed as having low to moderate archaeological significance.</li> <li>• The amendments to the project included the avoidance of an Aboriginal cultural heritage conservation zone adjacent to the M1 road reserve and around 15 other Aboriginal heritage sites.</li> <li>• APA identified strategies to further avoid or mitigate impacts to Aboriginal heritage during detailed design.</li> <li>• Heritage NSW – ACH recommended that test excavations be undertaken if the project was approved.</li> <li>• The Department and Heritage NSW – ACH consider the assessment as appropriate subject to recommended conditions.</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare and implement an Aboriginal Cultural Heritage Management Plan including a methodology for a test excavation and salvage excavation program</li> </ul>

Issue	Department's consideration	Recommended conditions
<b>Historic Heritage</b>	<ul style="list-style-type: none"> <li>The project would not be located near any State significant heritage items.</li> <li>The project would traverse the 'South Maitland Railway System', a heritage item with local significance listed under the Cessnock LEP 2011. HDD would be used to avoid direct impacts to this heritage item.</li> <li>Heritage NSW and the local councils did not raise concerns regarding impacts to Historic heritage.</li> <li>The Department considers impacts to historic heritage items would be unlikely subject to recommended conditions.</li> </ul>	<ul style="list-style-type: none"> <li>Ensure the project does not cause any direct or indirect impacts on heritage items located outside the approved development footprint.</li> </ul>
<b>Water Resources</b>	<ul style="list-style-type: none"> <li>The transmission pipeline would traverse a number of waterways including Weakleys Flat Creek, Buttai Creek, Wallis Creek, Swamp Creek and a number of other minor and ephemeral waterways.</li> <li>The project would use HDD under significant floodplains and creek crossings to avoid disturbance of riparian areas in these locations, with open trenching proposed for minor watercourses.</li> <li>Potential impacts to water quality would mainly be from erosion and sedimentation impacts during construction. The Department's consideration of the project's impacts on water quality in the context of aquatic habitats is outlined in <b>Section 6.2</b>.</li> <li>Impacts of the project's permanent aboveground infrastructure for the project (offtake facility, compressor station and delivery facility) and operational impacts on flooding and hydrology were assessment as unlikely.</li> <li>The Department considers water impacts, including to hydrology and flooding can be managed through the proposed mitigation measures and the recommended conditions of approval.</li> </ul>	<ul style="list-style-type: none"> <li>Construction of watercourse crossings of the pipeline in consultation with DPE Water and in accordance with <i>Guidelines for Controlled Activities on Waterfront Land</i> (NSW Office of Water, 2012).</li> <li>Prepare and implement a Soil and Water Management Plan as a component of the Construction Environment Management Plan (CEMP) during construction.</li> <li>Design the project to avoid impacts on bank stability along any watercourse to be crossed by the pipeline</li> <li>Stabilise watercourses as soon as practicable.</li> </ul>
<b>Traffic and Transport</b>	<ul style="list-style-type: none"> <li>Construction traffic access would be required at a number of locations along the pipeline route and at surface infrastructure sites.</li> <li>The traffic impact assessment prepared for the project considered a worst-case scenario where key construction</li> </ul>	<ul style="list-style-type: none"> <li>Prepare and implement a Traffic Management Plan in consultation with</li> </ul>

Issue	Department's consideration	Recommended conditions
	<p>activities were assumed to occur simultaneously during peak traffic periods. The assessment identified:</p> <ul style="list-style-type: none"> <li>○ construction would result in around 200 daily light vehicle trips (from various locations in the region) and 50 daily heavy vehicle trips (primary from the Newcastle Port to laydown areas), including increasing traffic volumes by up to 13.5% on John Renshaw Drive and up to 11.2% on Buchanan Road;</li> <li>○ while there is a modelled forecast of a reduction of Level of Service (LoS) at some intersections, they would continue to operate at generally acceptable levels of service (A to D). The exception would be Main Road which is currently operating at capacity (LoS D) and is anticipated to operate at the same LoS E with the project in the southbound direction during the morning peak and in the northbound direction during the afternoon peak. APA noted that light vehicle movements that would contribute to the increase would occur between 6-7am which outside the morning peak on Main Road (8-9am); and</li> <li>○ potential impacts to road safety, public transport infrastructure or pedestrian facilities during construction and operational traffic movements would be negligible.</li> </ul> <ul style="list-style-type: none"> <li>• The Department considers traffic impacts can be managed through the proposed mitigation measures and the recommended conditions of approval in consultation with TfNSW.</li> <li>• Potential direct impacts to road and other transport infrastructure are considered in <b>Section 6.4</b>.</li> </ul>	<p>TfNSW, as part of the CEMP.</p>
Noise	<ul style="list-style-type: none"> <li>• There are 11 sensitive receivers within 300 m of the project. The nearest sensitive receiver to construction works is located around 50 m from the pipeline and the nearest sensitive receiver to aboveground operational infrastructure is located around 260 m to the east of the offtake facility.</li> <li>• APA carried out a noise and vibration assessment in accordance with the <i>Interim Construction Noise Guideline</i> (DECC, 2009) (ICNG) and <i>Noise Policy for Industry</i> (EPA, 2017).</li> <li>• The assessment considered construction activities during standard construction hours (7 am and 6 pm Monday to Friday and between 8 am and 1 pm Saturdays and at no time on Sundays and public holidays), and three scenarios for out-of-hours works (storage pipeline construction, drilling and boring, and testing and commissioning).</li> <li>• The noise assessment identified that during standard construction hours, noise may exceed the 'noise affected' criterion of 10 dB(A) above background levels as specified in</li> </ul>	<ul style="list-style-type: none"> <li>• Restriction of construction activities to standard hours, with exceptions for low-noise activities or temporary out of hours activities subject to separate consideration on a case-by-case basis</li> <li>• Prepare and implement a Construction Noise Management Plan as part of the CEMP.</li> </ul>

Issue	Department's consideration	Recommended conditions
	<p>ICNG at 23 receivers, and may exceed the 'highly noise affected' criterion of 75 dB(A) under the ICNG at three receivers.</p> <ul style="list-style-type: none"> <li>• The Department notes that the exceedances are modelled without the application of noise mitigation measures and that APA has identified reasonable and feasible noise control and mitigation would be implemented to minimise noise impacts. Exceedances of the noise criteria would be temporary as construction progresses along the pipeline route.</li> <li>• The noise assessment predicted exceedances of the out of hours noise criteria including exceedance of the sleep disturbance criteria at up to 96 receivers, primarily associated with out of hours drilling and boring activities.</li> <li>• The Department considers that the predicted exceedances of the out of hours noise criteria are not justified and has recommended that construction work be limited to standard construction hours.</li> <li>• Out-of-hours work would be restricted to low noise activities (no more than 5 dB above the background) or considered on a temporary case-by-case basis with approval of the Secretary.</li> <li>• APA identified a range of reasonable and feasible mitigation measures to minimise noise impacts during construction.</li> <li>• The noise and vibration assessment indicated that construction vibration, construction traffic noise impacts and operational noise impacts would be minor and within relevant guidelines.</li> <li>• The noise assessment identified that the aboveground operational components of the project can operate 24 hours per day, seven days a week in accordance with operational noise criteria.</li> <li>• The Department considers APA has designed the project to minimise noise impacts and that some construction noise impacts are unavoidable given the nature of the project.</li> <li>• The Department considers that residual construction noise impacts can be managed through the mitigation measures identified by APA and the recommended conditions of approval, including the preparation of a construction noise sub-plan as part of the CEMP.</li> </ul>	
<b>Air Quality and Greenhouse Gas (GHG) Emissions</b>	<ul style="list-style-type: none"> <li>• The key potential air quality impact for the project is the generation of dust during construction.</li> <li>• GHD carried out a detailed quantitative assessment of potential construction air quality impacts. The NSW EPA and the local councils did not raise concern with the assessment of potential air quality impacts.</li> <li>• The air quality assessment identified the construction of the project would comply with relevant air quality criteria with the implementation of mitigation measures to minimise dust emissions including application of water for dust suppression on</li> </ul>	<ul style="list-style-type: none"> <li>• Minimise the off-site dust, generated by the development</li> <li>• Prepare and implement an Air Quality Management Plan as part of the CEMP</li> </ul>

Issue	Department's consideration	Recommended conditions
	<p>unsealed access tracks, and minimising activities based on weather conditions and observed dust generation.</p> <ul style="list-style-type: none"> <li>• The Department considers air quality impacts can be managed through the mitigation measures identified by APA and the recommended conditions of approval.</li> <li>• GHG emissions from the project include emissions generated during construction and operations.</li> <li>• Around 62,223 tonnes CO<sub>2-e</sub> emissions are predicted to occur during construction, largely as a result of vegetation removal – this is below the threshold for NGER reporting requirements.</li> <li>• An average of around 2,370 tonnes of CO<sub>2-e</sub> Scope 1 (direct) emissions and 15,900 tonnes of CO<sub>2-e</sub> Scope 2 (electricity consumption) emissions are predicted annually from operations.</li> <li>• The Scope 1 emissions include fugitive emissions from venting that would occur during maintenance over the life of the project.</li> <li>• GHG emissions associated with the generation of power at the Hunter Power Project were considered in the assessment for that project. These are Scope 3 emissions for the purposes of the project.</li> <li>• The Department considers that the Scope 1 and Scope 2 emissions from the project have been appropriately estimated, with the largest contribution from Scope 2 electricity consumption. The Department has recommended a condition to minimise GHG emissions over the life of the project.</li> </ul>	
<b>Contamination and Waste</b>	<ul style="list-style-type: none"> <li>• APA carried out a preliminary land contamination assessment in accordance with the Resilience and Hazards SEPP, which identified limited potential to disturb known contamination within the project construction footprint.</li> <li>• The pipeline would be located adjacent to one known contaminated site which comprises a former broiler farm which is subject to a Remedial Action Plan.</li> <li>• As described in <b>Section 3.5</b>, the interconnector pipeline and delivery station would be located on land subject to remediation works under SSD 6666.</li> <li>• APA has agreed to only commence the construction of the project within this area after a contaminated land site audit statement has been prepared by an Environment Protection Authority (EPA) accredited site auditor, stating that the land is suitable for heavy industrial use.</li> <li>• The potential contamination impacts of the project are therefore limited to chemical and fuel spills during construction and operation and the potential disturbance from unexpected contaminated land.</li> <li>• The majority of waste generation for the project would occur during construction and commissioning. APA has identified a range of mitigation measures to reduce and manage waste.</li> </ul>	<ul style="list-style-type: none"> <li>• Submit a copy of the Site Audit Statement by a suitably accredited person(s) that covers the project site at the former aluminium smelter prior to construction</li> <li>• Prepare a Waste Management Plan as part of the CEMP, including management of unexpected contaminated materials</li> </ul>

Issue	Department's consideration	Recommended conditions
	<ul style="list-style-type: none"> <li>The Department considers these impacts can be managed through the implementation of standard mitigation measures.</li> </ul>	
<b>Visual Amenity</b>	<ul style="list-style-type: none"> <li>Infrastructure for the project would primarily be located underground. Visual impacts would be temporary during construction and impacts during operation are considered to be minor and limited to the offtake facility, compressor station and delivery facility.</li> <li>APA identified the offtake facility would require landscape screening to mitigate impacts to residential receivers.</li> <li>The compressor station and delivery facility would be located in an industrial area in proximity to the Hunter Power Project and would not be visible to residential receivers.</li> <li>The Department considers visual amenity impacts would be temporary during construction and minor during the operation of the project and can be managed through the mitigation measures identified by APA and the recommended conditions of approval.</li> </ul>	<ul style="list-style-type: none"> <li>Blend visual appearance of infrastructure with surrounding landscape as reasonably and feasibly as possible</li> </ul>
<b>Rehabilitation</b>	<ul style="list-style-type: none"> <li>APA identified that the construction footprint would be progressively rehabilitated to the previous land use as required by the <i>Pipelines Act 1967</i> and relevant Australian Standards.</li> <li>Given that the pipeline is underground, land users would be able to continue regular land use activities above the pipeline provided that they do not undertake unapproved excavation activities, erect structures or plant tall or deep-rooted vegetation.</li> <li>APA identified that the decommissioning of the pipeline would be carried out in accordance with a Decommissioning Plan that would be prepared consultation with relevant stakeholders. APA noted the pipeline would most likely be decommissioned and left in-situ as this results in minor environmental impacts compared to removing the pipeline.</li> <li>The Department considers that the proposed approach to rehabilitation is acceptable.</li> </ul>	<ul style="list-style-type: none"> <li>Rehabilitate ancillary facilities to be safe stable and non-polluting</li> <li>Progressively rehabilitate the site as soon as possible following disturbance</li> </ul>
<b>Social and Economic</b>	<ul style="list-style-type: none"> <li>The social impacts associated with amenity impacts have been integrated into the Department's overall assessment including recommended conditions to avoid and mitigate impacts.</li> <li>The project alignment has been designed to avoid higher density population centres as far as practicable, which has reduced potential social impacts at affected receivers from construction and operations.</li> <li>The project would deliver economic benefits to the Hunter Region and NSW by generating a capital investment value of approximately \$264 million, creating up to 398 construction jobs at the peak of construction and up to five jobs during operation.</li> </ul>	<ul style="list-style-type: none"> <li>Refer to recommended conditions above for air quality, noise, visual and traffic impacts.</li> </ul>



Issue	Department's consideration	Recommended conditions
	<ul style="list-style-type: none"> <li>The project would supply natural gas to the Hunter Power Project and would therefore facilitate the social and economic benefits of that project.</li> </ul>	

## 7 Evaluation

The Department has carried out a detailed assessment of the merits of the project, in accordance with the relevant requirements of the EP&A Act, with a particular focus on issues raised in public submissions, representations and government agency advice.

The project was declared to be CSSI by the former Minister for Planning and Public Spaces as it was essential to NSW, as it forms part of the Hunter Power Project (Kurri Kurri Gas-fired Power Station Project) by supplying natural gas to the Hunter Power Project.

Updated forecasting and modelling since the approval of the Hunter Power Project identifies energy reliability gaps forecast earlier than previously expected in NSW from 2025-26, associated with the closure of the Eraring Power Station seven years earlier than its previously modelled closure date. The documents also identify firming capacity needs to be increased including from peaking gas-fired power generation to complement firming generation from batteries and pumped-hydro. The updated forecasting reinforces the stated benefits of the Hunter Power Project and therefore the project.

The Department considers that the key environmental impacts of the project relate to clearing of vegetation including EECs, hazards and risks, potential land use conflicts with existing and proposed development.

Based on this assessment, the Department considers that the project has been designed in a way that avoids and minimises impacts on the environment and surrounding landholders as far as practicable by implementing best practice contemporary mitigation and management measures. These include (but are not limited to):

- **Biodiversity and Aboriginal cultural heritage:** minimising vegetation clearing and land disturbance and impacts on biodiversity values (including critically endangered ecological communities and MNES under the EPBC Act), and avoiding an Aboriginal cultural heritage conservation zone.
- **Hazards and risks:** carrying out the project in accordance with APA's hazards analysis and additional studies based on the final design of the project including a Construction Safety Plan, Hazard and Operability Study, Emergency Plan and Safety and Operating Plan.
- **Land use:** ongoing consultation during the detailed design of the project as well as selection of trenchless construction methods where the pipeline intersects existing and proposed infrastructure to avoid direct impacts.

The Department has considered a range of other impacts and issues raised in the submissions in its assessment, including impacts to cultural and historic heritage, water resources, traffic and transport, amenity (visual and construction noise and air quality), waste, land contamination and rehabilitation as

well as broader social and economic aspects. The Department considers that the project design would be able to minimise the project's impacts as far as practicable.

The Department has recommended a comprehensive and precautionary suite of conditions in consultation with the key government agencies to ensure that the project would comply with contemporary criteria and guidelines, and that any residual impacts can be appropriately mitigated, managed and/or offset in accordance with NSW government statutory requirements, guidelines and policy requirements.

The Department recognises that hydrogen capability of the project, greenhouse gas and energy security were raised by the community in the submissions, which are predominantly in the context of project's interactions with the Hunter Power Project.

The project design is considered to be consistent with the current regulations, which allows transmission of up to 2% hydrogen in the fuel mix. The Department acknowledges that while the project's storage pipeline would not be capable of storing hydrogen, this would not preclude the future use of hydrogen at the Hunter Power Project. The infrastructure approval for the Hunter Power Project requires investigation of the latest technology for displacing natural gas or diesel as the fuel supply, such as use of green hydrogen, and displacing or offsetting 10% of direct GHG emissions until 2029 and all direct GHG emissions from 2040 onwards.

The Department considers the project would facilitate the benefits of the Hunter Power Project, including minimising use of diesel, which is allowed as a backup fuel for up to 2% of the year, and is consistent with the relevant NSW and Commonwealth strategic policy framework regarding climate change and energy security.

Additionally, the project would deliver economic benefits to the Hunter Region and NSW by creating up to 398 construction jobs at the peak of construction and up to five jobs during operation.

Based on its evaluation, the Department has carefully weighed up the impacts of the project against the benefits. On balance, the Department considers that the benefits of the project is in the public interest and approvable, subject to strict conditions.

## 8 Recommendation

It is recommended that the Minister for Planning:

- **considers** the findings and recommendations of this report;
- **accepts and adopts** all of the findings and recommendations in this report as the reasons for making the decision to grant approval to the application;
- **agrees** with the key reasons for approval listed in the notice of decision;
- **grants approval** for the application in respect of Kurri Kurri Lateral Pipeline Project (SSI-22338205), subject to the conditions in the attached Project Approval; and
- **signs** the attached Project Approval and recommended conditions of approval (see **Appendix D**).

### Prepared by:

**Jack Turner**

Senior Environmental Assessment Officer

**Mandana Mazaheri**

Principal Planning Officer

### Recommended by:



**Stephen O'Donoghue**

Director

Resource Assessments


### Recommended by:



**Clay Preshaw**

Executive Director

Energy, Resources and Industry



**David Gainsford**

Deputy Secretary

Development Assessment

## 9 Determination

The recommendation is Adopted / Not adopted by:

A handwritten signature in blue ink, consisting of stylized, flowing letters, likely representing 'A. Roberts'.

**The Hon. Anthony Roberts MP**  
Minister for Planning

# Appendices

## Appendix A – List of Key Documents

**A1 – Environmental Impact Statement (EIS):** Refer to folder “EIS” under the “Assessment” tab on the Department’s website at:

<https://www.planningportal.nsw.gov.au/major-projects/projects/kurri-kurri-lateral-pipeline-project>

**A2 - Submissions:** Refer to “Submissions” tab on the Department’s website at:

<https://www.planningportal.nsw.gov.au/major-projects/projects/kurri-kurri-lateral-pipeline-project>

**A3 - Submissions Report:** Refer to folder “Response to Submissions” under the “Assessment” tab on the Department’s website at:

<https://www.planningportal.nsw.gov.au/major-projects/projects/kurri-kurri-lateral-pipeline-project>

**A4 – Agency Advice:** Refer to folder “Agency Advice” under the “Assessment” tab on the Department’s website at:

<https://www.planningportal.nsw.gov.au/major-projects/projects/kurri-kurri-lateral-pipeline-project>

**A5 – Amendment Reports:** Refer to folder “Amendments” under the “Assessment” tab on the Department’s website at:

<https://www.planningportal.nsw.gov.au/major-projects/projects/kurri-kurri-lateral-pipeline-project>

**A6 – Additional Information:** Refer to folder “Additional Information” under the “Assessment” tab on the Department’s website at:

<https://www.planningportal.nsw.gov.au/major-projects/projects/kurri-kurri-lateral-pipeline-project>

## Appendix B – Consideration of the Objects of the EP&A Act

**Table B1 |** Consideration of the project against the relevant objects of the EP&A Act.

Issue	Consideration
(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State’s natural and other resources;	<ul style="list-style-type: none"><li>• The project would provide ongoing socio-economic benefits to the people of NSW through contributing to energy reliability by providing gas to the Hunter Power Project and ongoing employment opportunities during construction and operations.</li><li>• Consideration has also been given to the environmental features at the project site with appropriate conditioning of the project to avoid, minimise and offset impacts.</li></ul>
(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making	<ul style="list-style-type: none"><li>• The Department considers that the project can be carried out in a manner that is consistent with the principles of ecologically sustainable development. The Department’s assessment has sought to integrate all significant environmental, social and economic considerations. Consideration of the key principles</li></ul>

Issue	Consideration
about environmental planning and assessment;	<p>and programs of ecologically sustainable development is detailed below.</p> <p><b>Precautionary Principle</b></p> <ul style="list-style-type: none"> <li>• The Department has assessed the project's threat of serious or irreversible environmental damage and considers that there is sufficient scientific certainty regarding environmental impacts and residual risks to enable determination of the application.</li> <li>• The EIS contains a number of specialist environmental impact assessments and a number of design, construction and operation measures to mitigate, remediate or offset potential impacts.</li> <li>• The Department considers that the recommended conditions can provide an appropriate level of protection to environmental values in the region.</li> </ul> <p><b>Inter-generational equity</b></p> <ul style="list-style-type: none"> <li>• The Department recognises that the NSW energy market is in a state of transition from one dominated by coal-fired power stations to a renewable energy mix. Whilst this transition is being fuelled by investment in renewable energy zones and increased battery storage systems, gas-fired power stations are still required to play a crucial role in firming the State's electricity supply and the project would supply gas to a new gas-fired power station.</li> <li>• The Department recognises that climate change and reducing greenhouse gas emissions are key considerations for inter-generational equity and consider that the project by supplying gas to the Hunter Power Project would contribute to reducing potential climate impacts compared with coal-fired power stations, whilst also securing a reliable energy supply to the State.</li> </ul> <p><b>Conservation of biological diversity and ecological integrity</b></p> <ul style="list-style-type: none"> <li>• The potential impacts on biodiversity were considered as part of the Department's assessment of the project. As described in <b>Section 6.2</b> and <b>Appendix C</b> the Department considers that direct and indirect impacts on biodiversity can be minimised through proposed mitigation measures and offsets.</li> </ul> <p><b>Improved valuation, pricing and incentive</b></p> <ul style="list-style-type: none"> <li>• This ecologically sustainable development principle emphasises the internalisation of environmental costs in the pricing of assets and services.</li> <li>• The Department's assessment has sought to apply the 'polluter pays principle', insofar as APA would be required to offset or remediate potential environmental impacts. As such, the Department has conditioned that biodiversity impacts be offset.</li> </ul>



Issue	Consideration
(c) to promote the orderly and economic use and development of land;	<ul style="list-style-type: none"> <li>The pipeline route has been designed in accordance with <i>Australian Standard AS2885 Pipelines – Gas and liquid petroleum</i> and has considered current and reasonably foreseeable land uses in the vicinity of the project. The Department does not anticipate any significant compatibility issues between the project and existing or proposed land uses.</li> </ul>
(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats;	<ul style="list-style-type: none"> <li>The Department considers that the project has been designed to minimise environmental and biodiversity impacts as much as practicable through selection of a preferred pipeline alignment is preferentially located on land that has been cleared and follows existing linear infrastructure for around one third of its length</li> <li>Although clearing of native vegetation would be required, the Department considers that the proposed offset would maintain biodiversity values in the long-term and that potential impacts to threatened species and habitats can be managed and/or mitigated through appropriate conditions of approval that require strict management measures and biodiversity offsets.</li> </ul>
(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage);	<ul style="list-style-type: none"> <li>The Department has assessed the project's impacts on cultural heritage (see <b>Section 6.5</b>) and considers that potential impacts to Aboriginal heritage items can be appropriately minimised through the proposed management measures and the Department's recommended conditions for discovery of unexpected items. The project would not impact non-Aboriginal heritage items.</li> </ul>
(g) to promote good design and amenity of the built environment;	<ul style="list-style-type: none"> <li>The pipeline would be located underground, with surface infrastructure limited to the offtake facility, compressor station and delivery facility. Nonetheless, the proposed mitigation measures and conditions would minimise off-site noise and visual impacts of the development and aim to blend the visual appearance of infrastructure with surrounding landscape as reasonably and feasibly as possible.</li> </ul>
(h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants;	<ul style="list-style-type: none"> <li>The project application included a comprehensive hazard assessment completed in accordance with the requirements of SEPP 33 and reviewed in consultation with the Department's Hazards team.</li> <li>The hazard assessment identified that all project components meet the relevant risk criteria for individual facility and injury risks, propagation risk and societal risks.</li> <li>The Department has conditioned further requirements including finalisation of hazard assessments, emergency planning and construction and demolition conditions to ensure structural adequacy of the buildings and safe demolition at the end of project life.</li> </ul>
(i) to promote the sharing of the responsibility for environmental	<ul style="list-style-type: none"> <li>The Department notified and consulted with Cessnock City Council, Maitland City Council and City of Newcastle Council</li> </ul>

Issue	Consideration
planning and assessment between the different levels of government in the State; and	<p>and NSW government authorities throughout the assessment of the project and carefully considered all responses in its assessment.</p> <ul style="list-style-type: none"> <li>The Department has also consulted with the Commonwealth Department of Climate Change, Energy, the Environment and Water throughout the assessment due to the assessment process under the EPBC Act.</li> </ul>
(j) to provide increased opportunity for community participation in environmental planning and assessment.	<ul style="list-style-type: none"> <li>The Department publicly exhibited the project application and EIS and made all relevant documents publicly available on its website (see <b>Section 5</b>). All public submissions have been considered by APA and the Department during the assessment process.</li> </ul>

## Appendix C – Consideration of Commonwealth Matters

The Kurri Kurri Lateral Pipeline Project (the project) was declared to be a ‘controlled action’ under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 8 February 2022, due to its potential impacts on listed threatened species and communities. In making this determination, the delegate for the Commonwealth Minister for the Environment accredited the State’s environmental assessment processes under the *Environmental Planning and Assessment Act 1979* (EP&A) Act. Consequently, the potential impacts on controlling provisions under the EPBC Act have been assessed under the EP&A Act.

The Department provides the following additional information for the Commonwealth Minister to take into account when deciding whether or not to approve the project under the EPBC Act.

The Department’s assessment has been prepared based on the information contained in:

- the Environmental Impact Statement (EIS) for the project;
- the Proponent’s Submissions and Amendment Reports;
- the Biodiversity Development Assessment Report (BDAR) prepared by Umwelt, which was included in the EIS and subsequently revised in the first Amendment Report and further revised following further advice from BCD;
- advice provided by the former Commonwealth Department of Agriculture, Water and the Environment (DAWE); and
- advice provided by the BCD, in particular its assessment of impacts on EPBC Act listed threatened species and communities (see **Appendix C**).

This Appendix is supplementary to, and should be read in conjunction with, the main volume of the Department’s Assessment Report which includes the Department’s consideration of impacts to EPBC Act listed threatened species and communities in **Section 6.2**.

## C1 – Potential Impacts to EPBC Act listed Threatened Species and Communities

In its referral decision the Commonwealth determined that the project is a controlled action in that the proposed action is likely to have a significant impact on four EPBC Act listed threatened fauna species (Koala, Regent Honeyeater, Swift Parrot and Grey-headed flying fox) and one Critically Endangered Ecological Community (CEEC) (River-flat Eucalypt Forest).

The BDAR prepared by Umwelt included consideration of impacts of the project on these species and communities, including completion of significant impact tests for key species and communities in accordance with the *Significant Impact Guidelines 1.1 – Matters of National Environmental Significance* (DoE, 2013).

The Department's consideration of impacts to these EPBC Act listed threatened species and communities is summarised below. The Department has taken into account the advice provided by BCD, which indicated that Umwelt's assessment of EPBC Act listed threatened species and communities has been conducted correctly in accordance with the Biodiversity Assessment Method (BAM) under the provisions of the *Biodiversity Conservation Act 2016* (BC Act). It should be noted that BCD concluded that it supported the outcomes of the revised BDAR.

### ***Critically Endangered Ecological Communities (CEEC): River-Flat Eucalypt Forest on Coastal Floodplains of southern NSW and eastern Victoria***

River-flat Eucalypt Forest: Vegetation survey effort undertaken by Umwelt confirmed that a total of 1.2 ha of EPBC Act listed River-flat Eucalypt Forest in moderate condition exists within the project disturbance area. It is noted that this community is represented by PCT 1594 *Cabbage Gum Rough-barked Apple grassy woodland on alluvial floodplains of the lower Hunter*.

River-flat Eucalypt Forest has been heavily cleared in the Hunter region. The remaining extent of the ecological community is highly fragmented and occurs in small, isolated patches on productive agricultural land, or proximal to coastal areas. Within the project disturbance area, the community is highly fragmented as a result of historic and current agricultural land practices. Umwelt considered that the removal of 1.2 ha of woodland conforming to River-flat Eucalypt Forest on Coastal Floodplains CEEC is not likely to result in an increase in the level of fragmentation of this CEEC in the local area or across its range.

Umwelt considered that project is not expected to adversely affect retained areas of the CEEC occurring outside the project area as the project will be designed to avoid offsite impacts.

The 1.2 ha of this community being impacted by the project is not considered by Umwelt to be critical to the survival of the CEEC, given the small size and relatively degraded condition of the community in the project area and the availability of this CEEC in the surrounding region adjacent to the project area.

BCD advised that the BDAR adequately addressed impacts on this CEEC in accordance with the BAM. The Department has recommended a condition requiring the retirement of the ecosystem credits prior to the commencement vegetation clearing. On this basis, and given the small and fragmented area of the CEEC that may be impacted and the availability of this CEEC in the surrounding region adjacent to the project, Department considers the project's impacts on this CEEC are acceptable.

### ***Threatened Fauna: Regent Honeyeater, Swift Parrot, Koala and Grey-headed Flying-fox***

Regent Honeyeater (*Anthochaera phrygia*): Umwelt confirmed that the project disturbance area includes 0.46 ha of mapped important habitat and 50.05 potential foraging habitat for the Regent

Honeyeater. The Regent Honeyeater is the only species within the project disturbance area identified as being at risk of Serious and Irreversible Impacts (SAIL). As part of the BDAR, Umwelt completed additional impact assessment provisions for threatened species at risk of a SAIL. The 0.46 ha of mapped important habitat is a small area of PCT 1600 *Spotted Gum - Red Ironbark - Narrow-leaved Ironbark - Grey Box shrub-grass open forest of the lower Hunter* in a moderate/good condition. This mapped area is surrounded by a larger area of thinned/disturbed condition of this PCT. Umwelt identified that this PCT could provide winter foraging habitat when the eucalypts are in flower. This species was not detected during surveys.

The project disturbance area contains around 50.05 ha of low to moderate quality potential foraging habitat for this species and includes one of the priority feed tree species that are nominated in the National Recovery Plan (CoA 2016) as key foraging resources for the regent honeyeater in the Hunter Valley.

Umwelt considered that it is highly unlikely that this small area of mapped important habitat would be relied upon year after year by the regent honeyeater as a foraging resource, and there are no records of the species anywhere within the development footprint (DPIE 2021a). The closest record of the species occurs approximately 1.5 km north-west from the project disturbance area.

Umwelt identified that there is approximately 1,728 ha of important habitat mapping within 10 km of the mapped important habitat that would be disturbed for the project, the proposed impact represents a negligible reduction (0.03%) in the area of important habitat for the regent honeyeater in the local area.

Umwelt's assessment of potential impacts concluded that the project is unlikely to have a serious and irreversible impact on the Regent Honeyeater as it is unlikely that removal of 0.46 ha of marginal habitat or 50.05 ha of potential foraging habitat would be significant to the survival of the species or impede its recovery. The project would avoid large areas of intact, higher quality habitat within the surrounding area of the construction footprint, known to provide winter foraging resources for the regent honeyeater.

Umwelt considered that the project is not expected to introduce any diseases that may cause this species to decline or result in invasive species that are harmful to this species becoming established in the species habitat.

BCD advised that the BDAR adequately addressed impacts on this species in accordance with the BAM.

The Department considers that the project would not result in unacceptable impacts to the Regent Honeyeater, particularly given that:

- the proposed impact represents a negligible reduction in the area of important habitat for the regent honeyeater in the local area;
- it is unlikely that this area of habitat would be relied upon year after year by the regent honeyeater as a foraging resource;
- there are no records of the species within one kilometre of the disturbance area;
- it is unlikely that removal of 0.46 ha of marginal habitat would be significant to the survival of the species or impede its recovery; and
- the removal of potential habitat for the Regen Honeyeater would be offset through the retirement of ecosystem credits calculated for PCTs associated with potential habitat for this species, as well as species credits.

Swift Parrot (*Lathamus discolor*): Umwelt identified that while mapped areas of important habitat for the swift parrot are widespread in the surrounding area, these areas have been entirely avoided by the project disturbance area.

The project would involve the removal of 53.09 ha of potential foraging habitat including areas that contain two key feed tree species, which are the spotted gum (*Corymbia maculata*) and forest red gum (*Eucalyptus tereticornis*). The project disturbance area is not known as a historical or important foraging site for this species. Umwelt identified there is no potential for breeding habitat to occur in the project area as the swift parrot breeds in Tasmania and migrates to Australia in non-breeding season.

Umwelt considered that while the project may reduce the potential foraging habitat for the swift parrot, the clearance of such habitat is unlikely to have any adverse impact on the area of occupancy due to the presence of larger areas of equivalent habitat immediately adjacent to the project area and in Werakata National Park and Sugarloaf State Conservation Area. Umwelt identified that around 8,830 ha of important habitat exists within 10 km of the project area and considered that the removal of approximately 53.09 ha of open forest and woodland that contains potential foraging habitat in the project area is unlikely to cause the swift parrot to decline.

Umwelt identified that the population of the swift parrot has not been recorded in the project disturbance area, however there are 22 records within 10 km of the project disturbance area.

Umwelt considered that given the project is not likely to lead to a significant reduction in known habitat in the region or affect habitat that is critical to the survival of the species. Umwelt also identified that the swift parrot is highly dispersive, and considered that it is unlikely that the project would create a significant change to the species' dispersal capacity or create a significant barrier to movement of the species.

Umwelt considered that the project is not expected to introduce any diseases that may cause this species to decline or result in invasive species that are harmful to this species becoming established in the species habitat.

BCD advised that the BDAR adequately addressed impacts on this species in accordance with the BAM.

The Department considers that the project would not result in unacceptable impacts to the swift parrot, particularly given that:

- only foraging habitat for this species would be impacted;
- the proposed impact represents a negligible reduction in the area of foraging habitat for the in the local area and the project disturbance area is not known as a historical or important foraging site for this species;
- it is unlikely that removal of 53.09 ha of foraging habitat would be significant to the survival of the species or impede its recovery the project is unlikely to introduce or increase number of invasive pest species or a disease that may cause the species to decline; and
- the removal of potential foraging habitat would be offset through the retirement of ecosystem credits calculated for PCTs associated with potential foraging habitat for this species.

Koala (*Phascolarctos cinereus*):

Umwelt identified that the project would result in the disturbance of 57.93 ha of vegetation containing regionally relevant koala feed trees. Umwelt considered that the project disturbance area does not comprise habitat critical to the survival of the species and that the majority of the habitat comprises



thinned or disturbed vegetation and are dominated by exotic grasslands, characteristic of the surrounding agricultural landscape. No koalas were recorded during surveys completed as part of the BDAR.

Umwelt considered that the removal of 57.93 ha of potential koala habitat is a small area in the context of areas of higher quality habitat in the surrounding environment including a number of national parks, state forests and conservation areas.

Umwelt considered that given the condition of the habitat that would be disturbed and the proximity to higher quality habitat in the surrounding area, that the project is unlikely to substantially reduce the area of known habitat or an important koala habitat in the region or result in the fragmentation of an important population of koala into two or more populations. Umwelt also considered that given no important populations or breeding populations of this species been recorded in the locality, the project is therefore unlikely to disrupt the breeding cycle of an important population of this species.

Umwelt identified that while the project does not involve any processes that are likely to introduce a disease for the koala that may cause this species to decline.

BCD advised that the BDAR adequately addressed impacts on the Koala in accordance with the BAM.

The Department considers that the project would not result in unacceptable impacts to the Koala, particularly given that:

- the majority of the habitat within the project disturbance area comprises thinned or disturbed vegetation;
- there is suitable higher quality habitat in surrounding localities including a number of national parks, state forests and conservation areas;
- no important populations or breeding populations of this species been recorded in the locality;
- targeted surveys for this species did not identify the species;
- the project is unlikely to introduce or increase number of invasive pest species or a disease that may cause the species to decline;
- the project would not interfere substantially with the recovery of the species;
- the removal of potential habitat for the koala would be offset through the retirement of ecosystem credits calculated for PCTs associated with potential habitat for these species.

Grey-headed Flying-fox (*Pteropus poliocephalus*): Umwelt identified that the project disturbance area comprises 52.66 ha of potentially suitable foraging habitat for this species. No camps have been identified in the project disturbance area and the project would not impact on breeding or roosting habitat. No individuals were recorded in the project disturbance area during surveys, however one individual was recorded flying over the project disturbance area near Black Hill during nocturnal surveys in July 2022.

There are seven known roost camp sites within 35 km of the project area including two nationally important sites which are East Cessnock (15km northeast of the project) and Raymond Terrace (10km south of the project). The foraging resources are within the usual nightly foraging distance for the camps in East Cessnock and Raymond Terrace.

Umwelt considered that given the relatively small area of foraging habitat when compared to the local area, the project is unlikely to significantly reduce the availability of foraging habitat critical to the survival

of the species or reduce availability of foraging habitat such that it would disrupt the breeding cycle of the national population.

Umwelt considered that the project disturbance area is unlikely to contain significant breeding and roosting habitat necessary for maintaining genetic diversity. Therefore, the project area is unlikely to contain an important population of the grey-headed flying-fox. Umwelt considered that no significant effect on the recovery of the grey-headed flying-fox is expected to occur as a result of the project as the potential areas of foraging habitat that will be impacted as a result of the project are not expected to impact an important population of this species

Umwelt considered that given that the project area does not support an important population of the grey-headed flying-fox, the project will not lead to a long-term decrease in the size of an important population of this species

Umwelt considered that the project is not expected to introduce any diseases that may cause this species to decline or result in invasive species that are harmful to this species becoming established in the species habitat.

BCD advised that the BDAR adequately addressed impacts on the Grey-headed Flying Fox in accordance with the BAM.

The Department considers that the project would not result in unacceptable impacts to the Grey-headed Flying Fox, particularly given:

- the lack of potential breeding and roosting habitat within the project disturbance area;
- the relatively small area of foraging habitat when compared to the local area;
- the project is unlikely to introduce or increase number of invasive pest species or a disease that may cause the species to decline;
- the project would not interfere substantially with the recovery of this species; and
- the removal of potential foraging habitat for the Grey-Headed Flying Fox would be offset through the retirement of ecosystem credits calculated for PCTs associated with potential habitat for these species.

## **C2 – Demonstration of ‘Avoid, Mitigate, Offset’ for MNES**

### *Avoidance and Mitigation Measures*

APA has avoided and mitigated potential impacts to biodiversity values primarily through the design of the pipeline route including:

- locating the pipeline within previously cleared land including adjacent to existing infrastructure;
- locating surface facilities on land supporting exotic grassland and hardstand areas;
- selecting a trenchless construction methods to avoid surface disturbance of important riparian areas and areas of high biodiversity values;
- avoidance of all mapped areas of important habitat for the swift parrot;
- avoidance of remnant woodlands and forests where practicable;

APA has included a suite of avoidance and mitigation measures in the EIS to further reduce direct, indirect and prescribed impacts on the biodiversity values of the site including:

- undertaking pre-clearing surveys and progressively clearing;

- preparing and implementing erosion and sediment controls;
- measures to prevent weed incursions and spread;
- minimisation for the potential for fauna entrapment within the pipeline trenches;
- investigate options for avoiding or further reducing impacts to the River-flat eucalypt forest vegetation community at the north eastern extent of the storage pipeline footprint; and
- respread stockpiled vegetation over appropriate sections of the construction footprint during rehabilitation, unless other management measures are likely to improve rehabilitation outcomes.

The Department and BCD are satisfied with the avoidance and mitigation measures proposed by APA to minimise impacts on the biodiversity values of the site on the EPBC Act listed species and communities. The Department has recommended a condition requiring APA to prepare and implement a Biodiversity Management Plan that incorporates these avoidance and mitigation measures, as well as other contemporary biodiversity management practices.

### *Biodiversity Offsets*

The Department's recommended conditions require APA to retire biodiversity credits which accounts for the residual impacts of the project which cannot be addressed through the proposed avoidance and mitigation measures. A summary of the biodiversity offset credit requirement for MNES is outlined in **Table C1**.

**Table C1 | Summary of biodiversity credit requirements for MNES**

MNES	PCT	Area of impact (ha)	Credits required
<b>Ecosystem credits</b>			
River-flat Eucalypt Forest CEEC	1594	1.2	50
Regent honeyeater ( <i>Anthochaera Phrygia</i> )	1590, 1592, 1600	50	1,163
Swift parrot ( <i>Lathamus discolor</i> )	1568, 1590, 1592, 1598, 1600, 1633	53.1	1,301
Grey-headed flying-fox ( <i>Pteropus poliocephalus</i> )	1568, 1590, 1592, 1598, 1600	52.7	1,192
Koala ( <i>Phascolarctos cinereus</i> )	1568, 1590, 1592, 1594, 1598, 1600, 1619, 1633, 1728	84.3	1,321
<b>Species credits</b>			
Regent honeyeater ( <i>Anthochaera Phrygia</i> )	Mapped important area	0.5	24

BCD has advised that it was satisfied with the calculated offset liability for MNES.

Some areas within the project disturbance footprint were subject to access restrictions and seasonal limitations including for the koala. Umwelt has assumed that the koala is present in PCTs with suitable habitat for the purposes of generating offset calculations.

The Department has recommended a condition allowing APA to review and update the ecosystem and credit requirements in **Table G1** to reflect the final construction footprint and additional survey efforts and resulting extent and type of plant community types to be cleared. Amendments to the ecosystem and species credit requirements must be undertaken in consultation with BCD and DCCEEW and

approved by the Planning Secretary prior to the commencement of construction of the relevant offset stage.

APA advised that credit retirement could be achieved via payment into the Biodiversity Conservation Fund (BCF), purchase of credits from the open market (with consideration of applying the 'Like for Like' Variation Rules for MNES) and/or establishing Biodiversity Stewardship Site(s).

### **C3 – Requirements for Decisions About Threatened Species and Endangered Ecological Communities**

In accordance with section 139 of the EPBC Act, in deciding whether or not to approve, for the purposes of a subsection of either section 18 or section 18A of the EPBC Act, the taking of an action and what conditions to attach to such an approval, the Commonwealth Minister must not act inconsistently with certain international environmental obligations, Recovery Plans or Threat Abatement Plans. The Commonwealth Minister must also have regard to relevant approved Conservation Advice.

#### **C.3.1 Australia's International Obligations**

Australia's obligations under the *Convention on Biological Diversity* (Biodiversity Convention) include the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.

The recommendations of this Assessment Report are not inconsistent with the Biodiversity Convention, which promotes environmental impact assessment (as has been undertaken for this proposal) to avoid and minimise adverse impacts on biological diversity. The Department's recommended conditions require avoidance, mitigation and management measures for listed threatened species and communities and all information related to the proposed action is required to be publicly available to ensure equitable sharing of information and improved knowledge relating to biodiversity.

Australia's obligations under the *Convention on Conservation of Nature in the South Pacific* (Apia Convention) include encouraging the creation of protected areas which together with existing protected areas will safeguard representative samples of the natural ecosystems occurring therein (particular attention being given to endangered species), as well as superlative scenery, striking geological formations and regions. Additional obligations include using best endeavours to protect fauna and flora (special attention being given to migratory species) so as to safeguard them from unwise exploitation and other threats that may lead to their extinction. The Apia Convention was suspended on 13 September 2006. Nonetheless, Australia's obligations under the Convention have been taken into consideration. The recommended approvals are not inconsistent with the Convention which generally aims to promote the conservation of biodiversity.

The *Convention on International Trade in Endangered Species of Wild Flora and Fauna* (CITES) is an international agreement between governments which seeks to ensure that international trade in specimens of wild animals and plants does not threaten their survival. The recommended approvals are not inconsistent with CITES as the proposed action does not involve international trade in specimens of wild animals and plants.

### C.3.2 Recovery Plans and Approved Conservation Advices

The Department has undertaken a detailed and comprehensive assessment of the potential impacts of the project on listed threatened species and communities under the NSW *Biodiversity Conservation Act 2016* (BC Act) and the EPBC Act. The Department has taken into consideration approved Conservation Advice and Recovery Plans for the species and communities which may be impacted by the project, including the:

- *National Recovery Plan for the Swift Parrot (Lathamus discolor)*;
- *National Recovery Plan for the Regent Honeyeater (Anthochaera Phrygia)*;
- *National Recovery Plan for the Grey-headed Flying- fox*;
- *Conservation Advice Anthochaera phrygia (Regent Honeyeater)*;
- *Conservation Advice for the Swift Parrot (Lathamus discolor)*;
- *Conservation Advice for the River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria*;
- *Conservation Advice for Phascolarctos cinereus (Koala)*.

The Department has considered relevant Conservation Advice in its assessment of the project. The key threats to MNES species include vegetation clearing and landscape fragmentation, bushfires introduction of weeds, predation (particularly by feral cats and foxes), and climate change. As discussed above, while the project would result in the clearance of a small amount of the River-flat eucalypt forest, and primarily foraging habitat for the relevant MNES fauna species, the project is not predicted to significantly impact any of these threatened species or communities. The Department has recommended conditions to further minimise and offset residual impacts.

The key objectives of the relevant Recovery Plans include:

- preventing a further decline in the Swift Parrot population and achieving a demonstrable sustained improvement in the quality and quantity of habitat;
- reversing the long-term population trend of decline and increase the number of Regent Honeyeaters to a level where there is a viable, wild breeding population even in poor breeding years;
- enhancing the condition of Regent Honeyeater habitat to maximise survival and reproductive success and provide refugia during periods of extreme environmental fluctuation;
- improving the national population trends, and identify, protect and increase key foraging and roosting habitat for the Grey-headed Flying Fox.

APA has committed to offset the impacts of the project on MNES on a like-for-like basis in accordance with the BAM and the Biodiversity Offsets Scheme.

The Department's recommended conditions would also require APA to manage indirect impacts on MNES, including predation by feral pests and altered fire regimes, under a detailed Biodiversity Management Plan.

On this basis, the Department considers that the project can be carried out in a manner that is consistent with the key objectives of the relevant National Recovery Plans.

### C.3.3 Threat Abatement Plans (TAPs)

The Department has considered the Threat Abatement Plans (TAPs) relevant to the project under the EPBC Act. These TAPs are available at <http://www.environment.gov.au/biodiversity/threatened/threat-abatement-plans/approved>. The TAPs which are considered relevant to the project include:

- *Threat Abatement Plan for competition and land degradation by rabbits*

This TAP is relevant to the Regent Honeyeater,

- *Threat abatement plan for predation by feral cats*

This TAP is relevant to the Swift Parrot

The Department considers that given the fragmented nature of the current landscape and level of clearing proposed, it is unlikely that clearing impacts would cause populations of pest fauna species in the area to materially change from current levels. The Department therefore considers that the action can be carried out in a manner which is compatible with the relevant TAPs.

### C4 – Additional EPBC Act Considerations

**Table C2** contains the additional mandatory considerations, factors to be taken into account and factors to have regard to under the EPBC Act, additional to those already discussed, which the Commonwealth Minister must consider in determining the proposed action.

**Table C2 | Additional Considerations for the Commonwealth Minister under the EPBC Act**

EPBC Act Section	Consideration	Conclusion
<b>Mandatory considerations</b>		
136(1)(b)	Social and economic matters are discussed in the EIS (refer <b>Appendix A</b> ) and <b>Section 6.5</b> of this Report.	The Department considers that the proposed development would facilitate the benefits of Hunter Power Project including contributing to energy security and supporting the transition to renewable energy.
<b>Factors to be taken into account</b>		
136(2)(a)	<p>Principles of ecologically sustainable development (ESD), including the precautionary principle, have been taken into account, in particular in:</p> <ul style="list-style-type: none"><li>• long and short-term economic, environmental, social and equity considerations relevant to this decision;</li><li>• conditions that restrict environmental impacts, impose monitoring and adaptive management requirements and reduce uncertainty concerning the potential impacts of the project;</li><li>• conditions requiring the project to be operated in a sustainable way that protects the environment for future generations and conserves MNES;</li></ul>	The Department considers that, subject to the recommended conditions of approval, the project could be undertaken in a manner that is consistent with the principles of ESD.



EPBC Act Section	Consideration	Conclusion
	<ul style="list-style-type: none"> <li>advice provided within this report which reflects the importance of conserving biological diversity and ecological integrity in relation to the controlling provisions for this project; and</li> <li>mitigation measures to be implemented which reflect improved valuation, pricing and incentive mechanisms that promote a financial cost to the applicant to mitigate the environmental impacts of the project.</li> </ul>	
136(2)(e)	Other information on the relevant impacts of the action.	The Department considers that all information relevant to the impacts of the project has been taken into account.
<b>Factors to have regard to</b>		
176(5)	Bioregional plans	The project is located in the Sydney Basin Bioregion. The project would result in clearing of some vegetation in this region, however it would involve an offset that would contribute to in-perpetuity managed conservation areas in the bioregion. The project is unlikely to significantly impact the water resources in this bioregion.
<b>Considerations on deciding conditions</b>		
134(4)	<p>Must consider:</p> <ul style="list-style-type: none"> <li>information provided by the person proposing to undertake the action or by the designated applicant of the action; and</li> <li>desirability of ensuring as far as practicable that the condition is a cost-effective means for the Commonwealth and the person taking the action to achieve the object of the condition.</li> </ul>	<ul style="list-style-type: none"> <li>Documents provided by the Applicant are provided at <b>Appendix A</b>.</li> <li>The Department considers that the recommended conditions of approval in <b>Appendix D</b> are a practicable and cost-effective means to achieve their purposes.</li> <li>These conditions have been prepared following careful considerations of material provided by the Proponent and following consultation with DCCEEW.</li> </ul>

## C5 – Conclusions on Controlling Provisions

### C.5.1 Threatened Species and Communities (sections 18 and 18A of the EPBC Act)

The information provided to date identifies that the project could have the potential to result in significant impacts on the following threatened species and communities listed under the EPBC Act:

- River-Flat Eucalypt Forest on Coastal Floodplains of southern NSW and eastern Victoria CEEC;
- Koala (*Phascolarctos cinereus*);
- Regent Honeyeater (*Anthochaera phrygia*);
- Swift Parrot (*Lathamus discolor*); and
- Grey-headed flying fox (*Pteropus poliocephalus*).

The Department considers that the impacts of the proposed action on this threatened species and CEEC would be acceptable, subject to the avoidance, mitigation, offsetting and management measures described in the Applicant's environmental assessment documents, and the requirements of the Department's recommended conditions of approval (see **Appendix D**).

APA has committed to offset the impacts of the project on threatened species and communities, as outlined in **Table C2**, in accordance with the requirements of the NSW *Biodiversity Offsets Scheme*.

With respect to MNES matters, the proponent (as per the BDAR) has not indicated how the offset obligation for EPBC listed entities will be met. However, DCCEE have agreed as part of the bilateral process, that the offset obligation of the BAM assessment and the associated BOS is sufficient in meeting the MNES requirements. Under BAM there is no longer a requirement at the EIS to define a detailed offset package.

The credit retirement for impacts to MNES would be achieved by a combination of options for each stage of the project, including via payment into the BCF, purchase of credits from the open market (with consideration of applying the 'Like for Like' Variation Rules for MNES) and/or establishing Biodiversity Stewardship Site(s).

BCD has advised that it was satisfied with the calculated offset liability for MNES. The Department considers the proposed offsetting approach to be acceptable and has recommended a condition requiring all credits to be retired prior to commencing vegetation clearing for the project.

The Department has also recommended a condition requiring the Applicant to prepare a detailed Biodiversity Management Plan. This plan would describe the measures to be implemented to Reduce and mitigate residual impacts to MNES.

The Department recommends that the Commonwealth Minister require the Applicant to implement the State's conditions, where they relate to the management of impacts on threatened species and communities listed under the EPBC Act.

## **C6 – Other Protected Matters**

DAWE has determined that other matters under the EPBC Act are not controlling provisions with respect to the proposed action. These include listed World Heritage places, National Heritage places, migratory species, Ramsar wetlands, the Commonwealth marine environment, Commonwealth land, Commonwealth actions, nuclear actions, the Great Barrier Reef Marine Park and Commonwealth Heritage places located overseas.

## **C7 – Conclusion**

The Department considers that the recommended conditions would provide suitable protection for MNES under the EPBC Act. The Department notes that, if approved, the project would be referred to the Commonwealth Minister for the Environment for determination under the EPBC Act.

## **Appendix D – Recommended Instrument of Approval**

Refer to the Department's website at:

<https://www.planningportal.nsw.gov.au/major-projects/projects/kurri-kurri-lateral-pipeline-project>